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Job Futures 2000

World of Work Overviews and Trends



Human Resources
Development Canada

Développement des
ressources humaines Canada

Canada
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Job Futures 2000

World of Work Overviews and Trends

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of Human Resources
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Ministre
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des ressources humaines

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MESSAGE FROM THE MINISTER OF HUMAN RESOURCES DEVELOPMENT CANADA

Welcome to *Job Futures 2000*, a guide to the jobs of tomorrow for students, parents, job seekers, teachers, career and education counselors.

Deciding on a career path has never been easy. It has always involved difficult choices. Preferences and aptitudes must be matched with education and training choices. As we move into the new millenium, we also want to keep the future job market in mind.

The Government of Canada is strongly committed to providing young Canadians with quality career information, to supporting all Canadians in their career and education choices, and to offering the best labour market information through such endeavours as *Job Futures*.

Available in print and Internet formats, *Job Futures 2000* profiles current and future labour market conditions in Canada by occupation and field of study. New labour market information has been added to assist education and training choices. *Job Futures 2000* is also more accessible and user-friendly. State-of-the-art, dynamic web technology allows users of the web version to customize requests for information.

I believe you will find *Job Futures 2000* to be an indispensable resource in helping you make informed choices.

A handwritten signature in black ink that reads "Jane Stewart".

Jane Stewart

Canada

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Introduction

Labour Market Information (LMI): An Essential Source of Information

The nature and structure of the labour market have changed considerably over the past decade, primarily due to the globalization of the exchange of goods and services and the development of a more knowledge-based and technology-oriented economy. The result is that today's labour market is more turbulent, undergoing rapid and continuous change.

In addition, the standard "school-work-retirement" profile that characterized the labour market for decades is changing. Increasingly in today's economy, people hold many jobs during their working life and may pursue several different careers. An individual's working life may also be interrupted by non-work episodes for economic, professional or family-related reasons.

Decisions about careers, and the related education or training requirements, are among the most difficult that an individual must make. The implications of decisions made today are far reaching, in terms of an individual's social and economic well-being.

In this context, it is important that Canadians have reliable LMI in order to make well-informed career and educational choices, not only at the beginning, but throughout their working lives.

Job Futures and Career Planning

The *Job Futures 2000*¹ suite is designed to provide Canadians with information on current and future labour market conditions in order to make, or advise others in making, effective and informed career and education choices.

Being aware of current or future labour market conditions is a useful and necessary exercise, which may be required at various intervals throughout a person's life. Using timely and reliable LMI is a key step to improving the efficiency of the decision-making process, and in helping to ensure positive labour market outcomes. It is important to realize that the labour market is constantly changing and that keeping abreast of these changes from a wide array of sources is critical to ensure that Canadians have the right set of skills and knowledge required to compete effectively in the labour market.

The *Job Futures 2000* suite includes *World of Work: Overview and Trends*; *Part 1: Outlooks by Occupation*; *Part 2: Outlooks by Field of Study*; and the *Companion*.

Part 1 contains detailed information about current and future Canadian labour market conditions broken down into 211 occupational profiles. *Part 2* profiles the work experiences of recent post-secondary graduates and reviews the current and future labour market conditions for 155 fields of study. The *Companion* is a step-by-step guide illustrating how the various parts of *Job Futures* can be used to answer typical career-related questions.

World of Work: Overviews and Trends

World of Work: Overviews and Trends provides information to help answer a number of key questions that anyone undertaking career or education planning is, or should be, asking:

- What are the general trends in the labour market that I should consider when making decisions now or within the next few years?
- Are there certain industries that are doing better than others?
- Are there new or evolving occupations out there that I should look into?
- What impacts will the career or education choices I make influence my experiences in the working world, in the near term and over time?
- Once I've assessed my interests, aptitudes, skills and abilities, what labour market factors should I consider to ensure I'm making an informed choice?
- Are labour market conditions the same everywhere, or should I compare conditions at the national, provincial and even local levels?

World of Work complements the *Job Futures 2000* suite by setting the stage for the more detailed information provided in *Part 1: Outlooks by Occupation*, and *Part 2: Outlooks by Field of Study*.

To help address the questions listed above, **Chapter 1, Overview of Labour Market Trends** presents a summary of the 'big picture' by looking at aggregate labour market trends in the Canadian economy, by industry, broad occupational group, broad field of study and level of education.

¹ Readers are encouraged to review the section "Job Futures, LMI and Career Planning" in *Part 1: Outlooks by Occupation* or *Part 2: Outlooks by Field of Study* for more detail on how LMI and *Job Futures 2000* fit into the career-planning process.

An area of interest to many people looking for information about the world of work is **Emerging Sectors or Occupations (Chapter 2)**, which can include new occupations as well as changes to more traditional occupations. Although new occupations cannot be quantified to the same extent as traditional ones, they are important to consider for those trying to keep as many options open as possible.

Chapter 3, Key Factors to Consider, includes analysis illustrating how decisions made today can impact labour market performance over time. For example, the research presented indicates that labour market outcomes, such as rates of return to investing in post-secondary education, or rates of unemployment, flexibility, and opportunities, are generally better with more education. In other words, in terms of the factors mentioned, having a high school diploma is better than having no diploma, and having post-secondary courses, certificates, diplomas or degrees improves one's labour market outcomes relative to a high school diploma. The research also shows, however, that these general results can vary significantly depending on the individual, occupation, field of study, region, and over time.

Nation-wide trends have an impact on occupations at all levels: national, provincial and local. However, general trends seen at the national level can differ or have different impacts at the provincial level. In **Chapter 4, Across Canada**, we present sample lists of occupations at the provincial level to illustrate the similarities and differences that can occur.

A summary of the outlooks found in *Parts 1 and 2 of Job Futures* is provided in **Chapter 5, Overview of Job Futures Outlooks**. It includes an overview of current and future outlooks aggregated by skill type and skill level related to the detailed occupational outlooks found in *Part 1*, and an overview of outlooks aggregated by level of education and broad field of study related to the detailed field of study profiles found in *Part 2*.

The intent of the various sections in *World of Work* is not to state whether a specific career or educational path is the best choice for an individual, but to provide information for job seekers and career planners to use, in addition to other information, when making these critical decisions.

Chapter 1

Overview of Labour Market Trends

Introduction

This chapter is designed to highlight the impact of changes caused by increased economic activity and/or attrition (retirements, death) on the Canadian labour market from various perspectives – by aggregate industrial and occupational groups, as well as by aggregate education and skill levels. Additional details for each of these categories are available to the reader in Chapter 5, “Overview of Job Futures Outlooks”.

All projections presented in this chapter, as is true throughout the *Job Futures 2000* suite, cover the period from 1999 to 2004¹.

Overview of Industrial Labour Market Trends

Job opportunities, or new job openings, have two sources:

- The first source is **new job creation**, resulting from changing economic activity. A current example of this is the increase in market activity due to the recent globalization of the exchange of goods and services and the development of a more knowledge- and technology-based economy. The result has been dynamic changes in the nature and composition of job growth in the Canadian labour market.

- The second source of job opportunities is **attrition**, which are job openings that result from workers leaving jobs due to retirement or death.

When analyzing the labour market, it is important to examine both of these sources of job opportunities to develop a better picture of where the jobs are currently, and where they will be in the future.

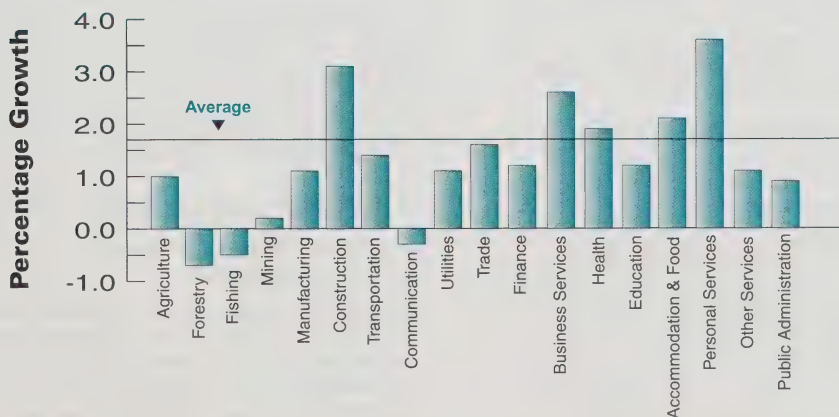
i) Job Openings Due to Increased Economic Activity

Economic growth is expected to account for 40% of new job openings over the next five years.

About 80% of these new job openings are expected to be in the service sector of the economy, primarily in the business services, health, accommodation and food services, and personal services industries.

- Growth in the **business services industry** is largely due to increased demand for computer professionals and consultants. This trend reflects: i) increased demand due to economic growth and ii) changes in the behaviour of

Graph1.1 — *Growth in New Job Creation by Industry (1999-2004)*



Source: “Canadian Occupational Projection System (COPS) 1999 Macroeconomic Reference Scenario”, T-99-1E, Applied Research Branch, HRDC.

¹ At the time of production the latest year of actual data available for most indicators was 1998.

organizations that have shifted from internal production activities to external production activities. For example, instead of directly employing a computer professional, a company will “contract out” for the professional on an as-needed basis. This trend also holds true for other consulting professionals such as engineers and lawyers.

- The **health sector** is expected to rebound from the restructuring of the mid-1990’s which, in conjunction with the increasing demands of an aging population, will result in an above-average rate of new job creation. However, some institutional restructuring is expected to continue, resulting in stronger growth in private practices and medical labs than in hospitals. This trend is expected to have a positive influence on a broad range of health care occupations.
- The outlook for strong employment growth in the **accommodation and food services industry** results from changing consumer preferences (partly due to the aging of the population), rising personal disposable income, and a relatively weak Canadian dollar that stimulates tourism.
- The rate of new job creation in the **personal services industry** is expected to be twice that of the economy-wide average for all industries. This strong growth is the result of an aging population, continued economic growth, and the increasing number of two-income families—all factors which drive the occupational outlook for personal service occupations such as childcare worker and home support worker.
- Although growth in the **public administration sector** is likely to resume, it is expected to remain below earlier peaks. Growth is expected to be lowest in the federal government and highest in local governments whose employees will be more involved in the delivery of programs and services to an aging population.
- Employment growth in the **education sector** is expected to rebound slightly following the restructuring which occurred in several provinces in the mid to late 1990’s. However, the rate of growth will be less than average due to the age structure of the population, i.e. fewer young people than in previous decades.
- The **communication sector** overall is expected to shed workers over the projection period, with anticipated losses in the radio and television industry exceeding gains in the telecommunication carriers industry:
 - Employment loss in the radio and television industry is generally due to rationalization—for example, the use of pre-recorded programs done in one location and then sold to a multitude of stations.

- Employment strength in the telecommunication carriers industry is tied to the adoption of new technology and the most efficient means of making this service attractive and available to clients.

The remainder (20%) of new job creation will be in the goods sector of the economy, mainly in the construction and manufacturing industries.

- The **construction industry** is expected to continue its recent strong employment growth due to the cyclical strength of the Canadian economy. Job opportunities are expected to increase due to residential and commercial construction and the replacement of an aging infrastructure (e.g. bridges and roads).
- Although the **manufacturing sector** as a whole is expected to grow slightly slower than average, there will be some pockets of strong growth in areas such as the rubber, plastics, paper products, printing and publishing and machining industries.
 - Prospects in the rubber and plastics industry are tied to growth in the automotive and parts industry.
 - Strong growth in the machining industry is tied to an increase in machinery and equipment investment and strong growth in the construction industry.
 - Employment growth in the printing and publishing industry is primarily a result of an aging population with more leisure time for reading, and growth in the emerging multimedia industry.
- Employment growth in the **agriculture and mining sectors** is expected to be weak due to increases in mechanization, relatively weak world commodity prices, and new labour-saving processes.

However, the forestry and fishing industries, which are part of the goods sector of the economy, are expected to shed workers over the next five years.

- Employment loss in the **forestry and fishing industries** over the 1999-2004 period are expected to follow primarily from supply constraints, relatively weak world commodity prices, increased mechanization, and resource depletion. This trend has negative implications for employment opportunities in the primary occupations, with the exception of highly-skilled, highly-specialized jobs.

ii) Job Openings Due to Attrition (retirement, death)

An estimated 60% of new job openings will be due to normal attrition from the workforce.

Retirements are largely dependent upon the existing age structure of an industry and future and past retirement patterns. Retirements and deaths play a larger role in determining the number of job openings in some industries than others. This varying structure is presented in Table 1.1.

Table 1.1 — *Profile of the Workforce by Industry*

	% of Workers 45 years of age and older		Average Age of Workers		Average Age of Retirement
	1986	1996	1986	1996	
All Industries	26.9%	30.9%	36.7	38.2	61.6
Primary Industries					
Agriculture	43.3%	44.7%	42.0	42.9	67.1
Other Primary	25.0%	30.8%	36.5	38.7	63.7
Secondary Industries					
Manufacturing	27.9%	30.6%	37.2	38.7	62.2
Construction	28.2%	31.1%	36.9	38.7	64.7
Utilities	29.2%	33.1%	38.2	40.2	57.8
Tertiary Industries					
Retail Trade	23.7%	24.4%	34.0	34.6	64.2
Wholesale Trade	25.5%	28.5%	36.3	38.0	63.3
Finance, Insurance & Real Estate	25.1%	33.3%	36.9	40.0	62.1
Health and Social Services	26.1%	34.1%	37.3	39.8	60.3
Business Services	23.5%	29.9%	36.4	38.6	64.7
Other Services	22.3%	23.4%	33.3	34.1	64.7
Transportation and Storage	31.7%	36.3%	38.7	40.6	61.7
Education	31.2%	43.0%	39.7	41.4	59.2
Provincial Public Administration	27.5%	38.6%	38.1	41.3	58.3
Federal Public Administration	24.0%	30.2%	36.3	38.9	58.2
Local and Other Public Admin.	28.2%	33.0%	37.4	39.4	58.9
Communications	24.5%	28.6%	36.9	38.7	58.3

Source: Census 1986 and 1996, LFS, Statistics Canada, 'Measuring the Age of Retirement', Perspectives, Summer 1997, 75-001 XPE

As can be seen in Table 1.1 the average age of workers in every industry, as well as the percentage of workers 45 years of age and older, has increased over the 1986 to 1996 period. Some industries such as forestry, fishing, communications, health, education, finance and public administration, have aged and are expected to continue to age at a faster rate than the other industries.

Retirements are expected to play a relatively larger role in the new job openings in the education, finance, and public administration industries.

- While the **education industry** is expected to have a below-average rate of new job creation, it is expected to have strong growth in job openings due to retirements. This is the result of several factors: i) the average age of workers in this industry, as seen in Table 1.1, is above average; ii) the average age is increasing at a rate faster than the economy-wide average, because there are relatively more workers in the 45 years and older category in the education sector; and iii) the average age of retirement is below average.
- The **finance industry** is also expected to have a below-average rate of new job creation. However, as Table 1.1 illustrates, the average age of the workforce in this industry is increasing about twice as fast as the economy-wide average, which is expected to result in job openings for new entrants.
- Retirements are expected to be the major source of new job openings in the **public administration industry**, especially at the federal level. The average age of workers in this industry is not only increasing more rapidly than the economy-wide average, but the average age of retirement is considerably lower than is generally found in other industries. The combination of these two factors is expected to produce a strong demand for workers in public administration, despite a below-average rate of new job creation.
- As mentioned above, the **forestry, fishing and communication industries** are expected to experience job losses over the 1999-2004 period. However, job openings are still expected in these industries as new workers will be needed to replace workers who leave due to retirement or death.

Occupational Labour Market Trends

Job Futures uses the National Occupational Classification (NOC) as its classification structure. The occupations are grouped into skill levels and skill types. These categories are used to present the occupational labour market conditions presented in Table 1.2.

With regard to **skill levels**, occupations are grouped according to the minimum amount of education and training generally required to enter the occupation. The groupings are represented in the *columns* of Table 1.2 on the next page:

- M – management occupations;
- A – professional occupations (university degree/diploma);
- B – technical, paraprofessional and skilled occupations (community college or trade vocational diploma/certificate);
- C – intermediate occupations (high school graduation); and
- D – labouring and elemental occupations (less than high school graduation).

Occupations are also grouped according to **skill types**, i.e. reflecting the major type of work performed. These groupings roughly correspond to groupings of similar industries. These skill types, while approximating the industry structure presented in the previous section, may contain a blend of several industries. The skill types are represented in the *rows* of Table 1.2. For example, the trade and transportation skill type is a blend of construction, manufacturing and transportation industries.

Table 1.2 demonstrates that, in general, labour market conditions currently and in 2004 are rated as:

- *Good* for university graduates working in business, natural and applied sciences and health.
- *Fair* in the trades and transportation skill type with *good* ratings for managers.
- *Fair* for those with a college or trade/vocational diploma.
- *Fair* for university graduates working in social sciences, arts, culture or recreation.

- *Fair* for those with a high school diploma except for those looking for jobs in sales, service or the primary industry where the outlook is rated as *limited*.
- *Limited* for those with less than high school graduation.

i) Overview of Occupational Labour Market Trends by Skill Level

Job opportunities in occupations requiring less than high school completion are becoming fewer, while occupations requiring post-secondary training are growing significantly and will provide more job opportunities.

This trend is illustrated in Graph 1.2 which compares the share of new job creation for the workforce in 1998 across the five aggregate skill levels with the share of new job creation expected over the period from 1999 to 2004.

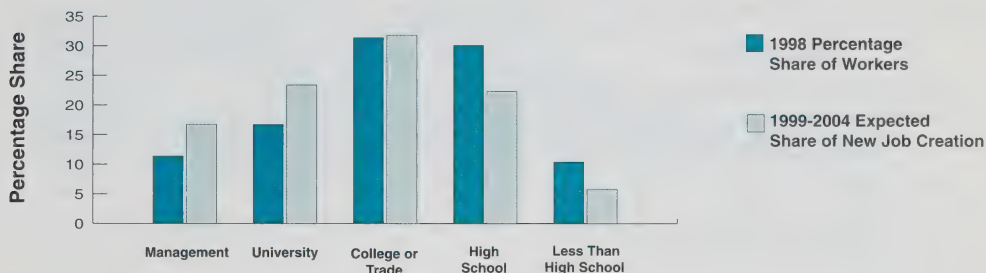
Table 1.2 — **Summary Table of Occupational Labour Market Conditions – Current and 2004**

Skill Types	Skill Levels					
	Managerial	Professional	Technical, Paraprofessional & Skilled	Intermediate	Labouring and Elemental	All
	Current - 2004	Current - 2004	Current - 2004	Current - 2004	Current - 2004	Current - 2004
Business, Finance & Administration	good - good	good - good	good - good	fair - fair	--	good - good
Natural & Applied Sciences	good - good	good - good	good - good	--	--	good - good
Health	good - good	good - good	fair - fair	fair - fair	--	good - good
Social Science, Education, Government Services & Religion	good - good	fair - fair	fair - fair	--	--	fair - fair
Art, Culture, Recreation & Sport	good - good	fair - fair	fair - fair	--	--	fair - fair
Sales & Services	good - good	--	fair - good	fair - limited	limited - limited	fair - limited
Trades, Transport & Equipment Operators	fair - good	--	fair - fair	fair - fair	limited - limited	fair - fair
Primary Industry	good - fair	--	fair - fair	limited - limited	limited - limited	fair - fair
Processing, Manufacturing & Utilities	good - good	--	good - good	fair - fair	limited - limited	fair - fair
All	good - good	good - good	fair - fair	fair - fair	limited - limited	fair - fair

Source: "Canadian Occupational Projection System (COPS) 1999 Macroeconomic Reference Scenario", T-99-1E, Applied Research Branch, HRDC.

See definitions of "Good", "Fair" and "Limited" in the "Glossary of Terms".

Graph 1.2 — *Share of New Job Creation by Skill Level (1999-2004)*



Source: 1998 Labour Force Survey and the COPS Demand Model (1999).

One can see that the share of new job creation is higher for those occupations requiring post-secondary education over the next few years relative to 1998, while it is lower for those requiring high school or less than high school. This is a result of differences in the projected rates of growth in new job creation. While the rate of new job creation in the Canadian economy is expected to average 1.7% per year over the 1999-2004 period, occupations generally requiring post-secondary training are expected to grow at above-average rates (2%), while those requiring high school or less are expected to grow at below-average rates (1.2% and 0.9% respectively).

Some of the specific growth areas by skill level over the 1999-2004 period are:

- Occupations generally requiring a university degree are expected to provide a large number of job opportunities (23.4% of all new jobs). Strong employment areas include:
 - Natural and applied sciences, e.g. engineer and systems analyst.
 - Business, finance and administration, e.g. accountant, human resources specialist, and business service professional.
 - Social sciences, e.g. lawyer, teacher, researcher and consultant.
- The largest proportion (31.8%) of new job creation is expected in occupations that generally require a community college or trade diploma/certificate.
 - The majority of these job opportunities are in the trades and transport area, primarily the result of the strong growth in the construction industry and the transportation industry, especially trucking.
 - The sales and service area is also expected to account for a large proportion of job opportunities, primarily because the sales and services sector employs the largest group of workers in the Canadian workplace, i.e. 27% of total 1998 employment.

- Other occupations that will benefit from job growth are real estate agent, technical sales specialist (wholesale sales), firefighter, and police officer as well as technical occupations in personal services.

- Occupations generally requiring high school completion are expected to provide about 22% of all new jobs. Strong areas of employment growth include:

- Business, finance and administration i.e. administration clerks.
- Trades, transport and equipment operators i.e. heavy equipment operators.
- Manufacturing and processing i.e. machine tool operators.

- The fewest job opportunities (5.8% of all new job openings) are expected to be in occupations generally requiring less than high school graduation. The major source of job opportunities for this skill level are in the sales and service skill type which includes such occupations as cashier, cleaner, and food counter attendant.

ii) Overview of Labour Market Trends by Level of Post-secondary Education

Slightly over 70% of the new jobs created are expected to be in occupations requiring at least some post-secondary training. Generally speaking, the more education a person has the higher the probability of finding a job.

Labour market conditions are expected to be *good* to *fair* for recent graduates from a post-secondary institution. For example, they are *good* for master's graduates, and *fair* for graduates at the remaining post-secondary educational levels.

Table 1.3 — **Labour Market Conditions for Recent Post-Secondary Graduates – Current and 2004**

Broad Fields of Study	Education Levels				
	Current - 2004	Current - 2004	Current - 2004	Current - 2004	Current - 2004
Arts	--	fair-fair	fair-fair	fair-fair	fair-fair
Business, Commerce, Management & Administration	good-good	good-good	fair-fair	limited-limited	good-good
Education	fair-fair	fair-fair	fair-limited	--	fair-fair
Engineering & Engineering Technologies	good-good	good-good	fair-fair	fair-fair	fair-fair
Humanities	fair-fair	fair-fair	fair-fair	--	fair-fair
Medicine and Health	good-good	good-good	good-good	fair-fair	good-good
Natural Sciences and Primary Technologies	fair-fair	fair-fair	limited-limited	limited-limited	fair-fair
Physical Sciences	good-good	good-good	good-good	good-good	good-good
Social Sciences and Services	fair-fair	fair-fair	fair-fair	limited-limited	fair-fair
All	good-good	fair-fair	fair-fair	fair-fair	fair-fair

Source: "Canadian Occupational Projection System (COPS) 1999 Macroeconomic Reference Scenario", T-99-1E, Applied Research Branch, HRDC.
See definitions of "Good", "Fair" and "Limited" in the "Glossary of Terms".

No broad fields of study at the **university** level are expected to experience *limited* labour market conditions by 2004. The outlooks for university graduates from the business, engineering, physical sciences (e.g. computer science) and the medicine and health fields are expected to be *good* over the next five years.

The favourable outlook for these university graduates reflects the global trend towards knowledge-based national economies which require an "upskilling" of the workforce. The movement towards occupations or industries that generate ideas or provide expert advice has been, and is expected to continue to be, one of the main sources of changing employment patterns. To compete successfully in an ever-expanding global economy, organizations must have access to such professionals as accountants, engineers and systems analysts.

- The employment outlook for **business graduates** over the next five years is expected to be *good* as more organizations require their analytical skills to compete in a global economy.

- Employment opportunities for **engineering graduates** are expected to be *good*. Engineers are considered to be core workers in a knowledge-based economy which is generally driven by science and technology activities. This favourable outlook also reflects growth in the construction and business services industries.
- The outlook is very *good* for **health graduates** from medicine, dentistry, chiropractic, optometry and nursing. However, the outlook for graduates from rehabilitative medicine is expected to weaken as the supply of recent graduates exceeds the demand for these workers.
- The fastest growing occupations over the last 20 years, outside of the management group, have been **systems analysts and computer programmers**, although growth is expected to slow over the next five years. The demand for these occupations is growing rapidly across all industries, reflecting the widespread adoption of computer technologies.

- The outlook for **pure science graduates** such as chemists, geologists, and physicists is expected to improve. The above-average rates of retirements in these occupations exceed below-average growth in new school leavers, i.e. people graduating from these fields of study.

However, conditions will vary for graduates from other post-secondary institutions, such as colleges and trade schools.

As Table 1.3 indicates, the outlook for **community college graduates** is generally expected to remain *fair* over the projection period. This reflects the balance between a *limited* outlook for graduates from natural science and primary industry technologies, largely due to weaknesses in the primary industries where they normally look for work, and a *good* outlook for those looking for work in the medicine and health and computer science fields. The positive outlook for these latter two fields follows largely from the demands of an aging population, the infusion of new spending in the health sector, and the global trend towards a knowledge-based economy.

- In other fields of study at the college level, labour market conditions are expected to:
 - Be *limited* for education/counselling graduates as above-average new job creation is exceeded by growth in the number of new graduates.
 - Deteriorate for retail sales graduates due to below-average growth in new job creation combined with above-average growth in the number of new school leavers and occupational re-entrants.
 - Deteriorate for electrical/electronic technology and instrumentation technology graduates—the result of average growth in new job creation being exceeded by above-average growth in new graduates.

The outlook for **trade/vocational graduates** is expected to be *fair* during the projection period reflecting *limited* labour market conditions for recent graduates from natural sciences, primary industry technologies and social services, and a *good* outlook for computer science graduates. Favourable labour market conditions for engineering technology graduates, especially construction technology graduates, helps to maintain the *fair* rating over the projection period.

- In other fields of study at the trade level, labour market conditions are expected to:
 - Be *limited* for business graduates.
 - Improve for civil engineering technology graduates due to above-average growth in new job creation brought on by a rebounding construction sector and an above-average rate of retirement.
 - Deteriorate for creative and design artists as above-average growth in new job creation is significantly exceeded by above-average growth in the number of recent graduates.

- Deteriorate for retail sales graduates due to below-average growth in new job creation and well-above-average growth in the number of new school leavers and occupational re-entrants.

iii) Overview of Labour Market Trends by Field of Study

Labour market conditions are expected to be “good” for recent graduates from such broad fields of study as business, medicine and health, and physical sciences.

- While university graduates in all areas of **business** generally have positive work prospects, those from the retail trade field of study at the trade/vocational and community college levels will find deteriorating job opportunities resulting from weak growth in the retail trade sector, below-average levels of retirement, and above-average growth in new school leavers and occupational re-entrants. Similarly, job opportunities are expected to deteriorate for trade/vocational accounting graduates due to the growth in the number of new school leavers exceeding growth in new job creation.
- Labour market conditions for graduates from the **medicine and health** broad field of study are generally expected to remain *good* at all levels of education except trade, but are expected to deteriorate for undergraduates with a degree/diploma in rehabilitation medicine, primarily because of increased levels of recent graduates and few occupational retirements.
- No major field of study in the **physical sciences** is expected to experience deteriorating job opportunities between 1998 and 2004, due to high retirement rates and a steady flow of new graduates. Labour market conditions are expected to improve for undergraduate and master's graduates in geology and physics. Labour market conditions for computer science graduates, regardless of level of study, are rated as *good* both currently and in 2004.

Alternatively, labour market conditions are expected to be “limited” for recent community college and trade/vocational graduates in natural sciences and primary technologies. Trade/vocational graduates in business and in social services are also expected to face “limited” labour market conditions.

- The situation for **natural science and primary technology** graduates at both the trade/vocational and community college levels of study is the result of a weak primary industry sector and large increases in new graduates in recent years.
- Conditions for community college **education and counselling** graduates are expected to deteriorate as a result of above-average growth in new job creation being exceeded by growth in the number of new school leavers.

- The *limited* outlook for trade/vocational graduates from **business** and from **social services**, is primarily due to *limited* ratings for such major fields of study as cooking, service industry technologies and social services technologies. These weaknesses are due in large part to an anticipated large number of recent graduates seeking employment in these areas.

Conclusion

This chapter has highlighted the impact of changes in economic activity and attrition on the size and structure of the Canadian labour market from various perspectives – by industrial and occupational groups, as well as by education and skill levels. The movement towards jobs that generate ideas or provide expert advice, referred to as the ‘knowledge economy’, has been and is expected to continue to be one of the main sources of changing employment patterns.

In summary:

- Economic growth is expected to account for 40% of new job openings over the next five years, while natural attrition accounts for the other 60%.
- About 80% of the new job openings related to economic growth are expected to be in the service sector of the economy, primarily in the business services, health, accommodation and food services, and personal services industries. The remainder (20%) are expected to be in the goods-producing sector, mainly in the construction and manufacturing industries.
- Over 70% of the new jobs created are expected to be in occupations requiring at least some post-secondary training. Occupations requiring less than high school completion are becoming fewer, while occupations requiring post-secondary training are growing significantly and will provide more job opportunities.
- Labour market conditions vary across occupations, by field of study, and across the different post-secondary levels of education examined i.e. university, college and trade.

Chapter 2

Emerging Sectors and Occupations: New Work Opportunities

Introduction

Some sectors are still in their infancy while those undergoing change are in a state of flux. Finding reliable, detailed quantitative information about emerging occupations in these sectors remains difficult, if not impossible. Readers of *Part 1 of Job Futures*, entitled *Outlooks by Occupation*, will find information on current and future labour market conditions for more established occupations.

This section of *World of Work: Overviews and Trends* is designed to alert readers to the existence of emerging sectors and occupations that are providing Canadians with different labour market opportunities than in the past—opportunities that they need to take into account when making decisions on educational paths and choosing a career. The examples presented in this chapter are for illustrative purposes and are not intended to represent an exhaustive list of opportunities in emerging sectors or occupations in the Canadian labour market.

What are “emerging” sectors and occupations?

The unprecedented rate and breadth of technological advances, and the impacts of global competition on the pace of developing and adopting new technologies, are having significant effects on the Canadian labour market - changing where, when and how work is done, and by whom. These changes are leading to new work opportunities, particularly in emerging sectors and occupations.

Emerging sectors or occupations can occur as a result of changes in technologies, markets, or regulations. In this context, ‘emerging’ is used to define sectors or occupations that: i) are completely new, ii) already exist but are undergoing significant change, or iii) are experiencing high employment growth¹.

Technological development leads to new sectors and occupations

Technological change is not new. For example, in the first half of the 20th century, technological advances resulted in the introduction of the automobile and aeroplane creating significant changes in the way people travelled, while manufacturing was transformed by automated assembly lines. However, the nature of the change in the second half of the century, led predominantly by computerization, is not only faster than ever before, but the number of applications and direct and indirect effects are without precedence in human history.

For example, the extensive and relatively new **information technologies and telecommunications industry** covers a range of occupations that did not exist a decade ago. This leading-edge industry has four components: software and computer services, manufacturing, communications and cable services, and multimedia.

Multimedia, the newest sector of this industry, includes the activities carried out to digitize material such as sounds, images and text, and disseminate this material electronically or transfer it in computer format, providing users with an interactive environment². Multimedia applications have a wide variety of purposes—information, education, medical diagnosis and treatment, and entertainment. The increasing popularity and subsequent use of multimedia has created many new occupations. For example:

- **Webmasters** write the computer code to publish or update text and images on web sites, and design, edit and maintain the content of different sections of such sites. Growth in employment for this occupation is particularly strong in publishing, trade and business, where e-commerce is expected to increase considerably over the next ten years.
- **Multimedia product testers** ensure quality control of electronic products such as web sites, CD-ROMs, interactive terminals, and electronic games. Until very recently, recruitment for this position was intense. Workers in this field have an artistic bent and are not necessarily extensively trained.
- **Examples of other new multimedia occupations** include 2D (i.e. two-dimensional) and 3D animators, content analyst, integrator and designer-writer.

Technological change also affects existing occupations

Many existing occupations have changed partially or completely as a result of advances in technology. For example, in addition to introducing new occupations, the multimedia sector includes hybrids of more traditional occupations, such as:

- **Cyberjournalists**, who produce customized electronic news, play a role similar to that of conventional journalists in the print media. However, cyberjournalists can target their materials to micro-markets more easily on the Internet, while print journalists must generally meet the needs of a broad, diverse readership.
- **Cybercafé managers** have responsibilities that include those of traditional café managers, i.e., planning and directing the activities of a coffeehouse. However, their establishments also provide Internet access to customers who pay by the hour. The responsibilities of cybercafé managers may include showing customers how to surf the Web, and handling repair and maintenance of computer equipment.

¹ Adapted from “Issues in Labor Statistics,” U.S. Department of Labor, Bureau of Labor Statistics, Summary 98-11, November 1998.

² Association des producteurs en multimédia du Québec (APMQ)

Examples of occupations in other sectors that are undergoing significant changes:

- **Typesetters** were once indispensable to the printing industry. Today, they have been almost completely replaced by **pre-print computer graphics designers** who use software to lay out elements of documents such as text, graphics, and photographs.
- Many of the traditional duties of **secretaries** have been eliminated as a result of voice mail and the widespread use of personal computers. However, **administrative officers/assistants** are more than just updated secretaries. Their work involves a broader set of skills and knowledge and more responsibilities. They also often provide a higher level of support to executive staff such as handling budget management or contributing to presentations. Administrative officer/assistant is a growing occupation in most sectors of the economy.

Sectors experiencing high growth lead to opportunities in emerging occupations

Canadians are also likely to find emerging occupations in sectors that are growing as a result of market expansion, leading to high employment growth. Many companies are achieving high growth rates today as technology enables them to market their products and services in an expanding global market. Examples of high growth sectors include:

- **Information technology (IT) and telecommunications.** The software and computer services sector is the fastest growing segment of this industry, and focuses on the application of new technologies in a variety of industries. Growth in this segment of the IT industry has increased demand for many different types of workers. For example, there is strong recruitment for **computer managers** who are responsible for an organization's computer network. They oversee the installation, configuration, and maintenance of both software and hardware in a local area network (LAN), wide area network (WAN), or Internet/Intranet system.
- **Biotechnology.** The number of Canadian companies involved directly or indirectly in this sector doubled between 1994 and 1997. Bio-pharmaceutical companies form the largest and fastest-growing segment, accounting for about half of the employment, which increased 25% through the 1990s. Agri-biological products is the next largest segment, with industrial enzymes, aquaculture and forestry products accounting for the rest. Over half of the workforce in biotechnology is involved in research and development, requiring highly skilled and highly educated people. The occupations most in demand require a blend of technical and management skills, particularly **senior personnel** with combined science and business backgrounds³.
- **Aerospace industry.** Many factors have contributed to the resurgence of the aerospace industry: commercial aviation now has access to the world market; increased use of

personal aircraft; reconditioning of older aircraft that are still in service; and finally, economic deregulation of air transportation. This growth leads to increased demand for occupations such as **aerospace engineer** and **aviation mechanic**.

New regulations lead to emerging sectors and occupations

The introduction of new legislation to resolve conflicts in, or to protect, a specific sector has had a direct impact on occupations. For example:

- **Environment.** The environment industry has changed a great deal since Canada made a commitment to "sustainable development", defined as development that meets the needs of today without compromising the ability of future generations to meet their needs. Many new or hybrid occupations have resulted from this commitment such as **environmental technologist**, **environmental lawyer**, and **environmental policy analyst**.
- **Gambling.** Legalization of gambling in some jurisdictions has led to growth in various occupations, many of which existed before. For example, there is an increased demand for **gaming supervisors**, for casinos and slot machine or video poker arcades, who monitor compliance with the rules and policies on games of chance.
- **Patent and international trade law.** The growth in the global economy has had a legal impact on Canadian business. Intellectual property law, including patent legislation, gives exclusive rights for a specified period to a company for a product it has developed. To do business abroad, companies need a good understanding of legislation governing intellectual property and international trade. The results are growing opportunities for **patent agents** and **specialists in international trade law**.

Emerging areas are accessible to most Canadians

Many Canadians believe that emerging sectors are only accessible to those with specialized and/or advanced education or training. While it is true that, for most jobs today, basic requirements such as literacy skills and the ability to use computers are increasing, the emerging sectors offer opportunities to workers with a broad range of educational backgrounds.

Since the variety of occupations in these sectors is diverse, they provide growth in both highly-skilled occupations and supporting occupations which themselves require varying degrees of education, skills and experience. For example:

- **Multimedia.** Canadians do not have to be IT experts to find work in this area, but most jobs do require employees to be comfortable working with computers. Although artistic talent is necessary for many jobs in multimedia, it is not required for all jobs.

³ "Stepping Up, Skills and Opportunities in the Knowledge Economy", Report of the Expert Panel on Skills, Industry Canada, 2000

- **Environment.** The Canadian environment industry employed 221,000 people in 1998⁴. This is a cross-sectoral industry, i.e., people who work in forestry, transportation or manufacturing may have an “environmental” label. This sector requires people with a broad range of education:
 - Less than half of the workers (46%) in 1998 were environmental specialists, i.e., people who contributed directly through resource conservation and pollution control, or who communicated preventive measures to the general public. These specialists had college diplomas, e.g., chemical technologist, wildlife conservation officer and watershed officer, or university training, e.g., biologist, hydrogeologist and geomatics specialist.
 - More than half (54%) held support positions, e.g., landfill equipment operators and administrative staff, including occupations with educational requirements ranging from high school to university training.
- **Aerospace.** This sector experienced significant growth (24.4%) in the five years between 1993 and 1998, with employment levels exceeding 60,000 in 1998⁵. Although this sector is often characterized by the introduction or development of numerous specialized technologies, there are requirements for workers with varying levels of education. For example:
 - One-fifth (20%) of the workforce is comprised of aerospace and other related engineers who require university degrees.
 - Half of the workers assigned to production are in occupations that require specialized training, e.g., mechanics, machinists, aircraft inspectors, electronics assemblers, tool and die makers, and industrial design technologists.
 - The remainder of the aerospace workforce (30%) performs administrative and secretarial duties or works in sales and promotion of products and services – occupations that generally require, at minimum, a high school diploma or post-secondary courses or certificates.

Sample Occupations in Emerging Sectors

A wide range of occupations with varying educational backgrounds is required as sectors emerge, evolve and grow, providing opportunities for a wide range of people. These occupations can range from being completely new to being more traditional, or a hybrid of both. They can also range from those that are more specialized and tend to be specific to a sector, to those that are more general and can be found across many sectors (i.e. cross-sectoral). Table 2.1 gives examples of specialized occupations by level of education required, for the emerging sectors referred to in the previous section. Table 2.2 provides examples of more general or cross-sectoral occupations with different education/training requirements.

Table 2.1 — *Examples of Specialized Occupations in Emerging Sectors*

Sector	University	College/Technical	High School/Less than High School
Environment	<ul style="list-style-type: none"> • biophysicist • agrologist • specialists in forest management and environment • specialists in geomatics • geologist • geographer • hydrogeologist • rural engineer • environmental, chemical, mechanical, electrical and industrial engineers 	<ul style="list-style-type: none"> • air quality specialist • environmental technologist • pollution prevention officer • soil technician • watershed officer • environmental inspector • hazardous materials officer • wildlife conservation officer • forestry technologist • regulations officer 	<ul style="list-style-type: none"> • landfill equipment operator • sylviculture and forestry workers • aquaculture and marine harvest labourers

⁴ Canadian Council for Human Resources in the Environment Industry (CCHREI)

⁵ Employed Labour Force, Labour Force Survey, 1998, Aircraft and Aircraft Parts Industry (SIC321)

Sector	University	College/Technical	High School/Less than High School
Biotechnology	Occupations in: <ul style="list-style-type: none"> • biology: cellular, molecular, plant, animal • biochemistry • biophysics • engineering: chemical, food, biomedical, industrial, genetic • immunology • dietetics • medicine • veterinary medicine • physics • food science and technology • pharmacy • bioinformatics • bioethics 	<ul style="list-style-type: none"> • chemical technician/technologist • biological technician/technologist • water supply manager • water pollution control managers • inspectors in public and environmental health • laboratory technician 	<ul style="list-style-type: none"> • see cross-sectoral occupations in Table 2.2

Sector	University/College/Technical	High School/Less than High School
Multimedia	<ul style="list-style-type: none"> • multimedia producer • project manager • production designer-scene writer • computer graphics designer • 2D and 3D animation designer • web designer • production designer-ideas manager • videographer • product tester • adapter-translator • network architect • information librarian • cyberjournalist • photographer • sound producer • user support • lawyer specializing in protecting intellectual property rights 	<ul style="list-style-type: none"> • product tester • librarian and information clerk

Sector	University	College/Technical	High School/Less than High School
Aerospace	<ul style="list-style-type: none"> • aeronautics specialist • aerospace engineer • electrical engineer • computer engineer • specialist in software engineering • chemical engineer • physicist • astrophysicist • sales and marketing specialist 	<ul style="list-style-type: none"> • mechanic • aircraft inspector • machinist • tool and die maker • industrial design technologist 	<ul style="list-style-type: none"> • assembler • machining • aircraft electronic assembler

Table 2.2 — **Examples of General or ‘Cross-sectoral’ Occupations**

Post-secondary Diploma	High School or Less
<ul style="list-style-type: none"> • financial manager <ul style="list-style-type: none"> • accounting/bookkeeping occupations • human resources manager <ul style="list-style-type: none"> • HR/personnel occupations • sales/marketing manager <ul style="list-style-type: none"> • sales and marketing occupations • office manager <ul style="list-style-type: none"> • administrative assistant/secretary 	<ul style="list-style-type: none"> • sales clerk • cashier • office support worker • labourer • machine operator • motor vehicle driver • support workers in food services • mail distribution or information clerks • reporting, scheduling and distribution occupations • cleaners

General workplace skill sets: Critical for working in emerging sectors

Today’s job seekers not only require specific work-related skills, but they also need good general workplace skill sets. This is even more critical for those wishing to succeed in emerging areas where changes tend to be faster or more dramatic.

Due to this pace of change across labour markets, Canadians also need to adopt a philosophy of life-long learning. They must keep on top of the general and job-specific knowledge and skills required for their occupation.

For example:

- In the past, having to upgrade skills and knowledge on an ongoing basis was an integral part of the job in occupational areas such as medicine, engineering, law or various trades. Today, workers in these areas find that the pace, type and amount of change are increasing, making life-long learning even more essential.
- There are other occupational areas where workers in the past generally found it sufficient to keep abreast of changes through on-the-job experience after leaving school. However, they too must now maintain and upgrade their skills on a more continuous basis with additional courses or training.

Examples of workplace skill sets being demanded at increasing rates by employers from emerging areas, and more generally, are:

- **Flexibility and adaptability to change.** Included are the abilities to:
 - summarize and analyze information
 - withstand stress
 - accept criticism
 - work as part of a team
 - work in a multicultural environment
- **Independence.** Included are the abilities to act on one’s own in the areas of:
 - learning
 - problem-solving
 - decision-making
 - taking calculated risks
- **Communications.** Included are the abilities to communicate well:
 - orally
 - in writing
 - independently
 - as part of a team

Some of these skills are also categorized as ‘essential’ or ‘enabling’ skills, defined as the kind of skills that people use to carry out a wide variety of everyday life and occupational tasks. They provide people with a foundation to learn other skills, and enhance people’s ability to adapt to workplace change. In addition to some of the skills listed above are skills such as reading text, numeracy (math), and computer use. More information about essential skills, and profiles of these skills across various occupations (primarily from NOC Skill Levels C and D), can be found at www.hrdc-drhc.gc.ca/essentialskills.

Conclusion⁶

Canadians who are seeking work, or are already in the workplace, need to be aware of emerging sectors and occupations, which include both new occupations, and existing occupations experiencing high growth or significant change. This knowledge will help them make informed decisions about their futures such as where they are most likely to find work; or what kind of education/training they will need; or how their current work might change. Emerging occupations are accessible to most Canadians. Gathering more information about the nature of change in today's economy is also likely to help them better understand the types of skill sets and continuous learning that they need to prosper in the workplace.

⁶ A wide variety of sectors are represented by Sector Councils who focus on human resource issues relevant to their specific sector. Their Web sites, which may have additional information on emerging occupations or skill sets, as well as detailed profiles of other sectors, can be accessed at the following address: www.hrdc-drhc.gc.ca/sector.

Chapter 3

Key Economic Factors to Consider

Introduction

When making career or educational decisions, it is important that Canadians consider not only personal factors such as work-life preferences, talents, and interests, but also how such decisions will impact their labour market experiences or outcomes such as:

- Starting earnings profiles.
- Lifetime earnings profiles.
- Rate of return to education.
- Labour market accessibility.
- Labour mobility.

The objective of the following analysis is to examine how labour market outcomes differ depending on the level of education and field of study considered. The three labour market outcome measures discussed are:

- Starting and lifetime earnings profiles.
- Net benefits of a career or educational choice (rate of return to investing in post-secondary education).
- Labour market employability.

The intent is not to state whether a specific career or educational path is the best choice for an individual. Rather, this chapter provides information for job seekers and career planners to use, in addition to other information, when making these critical decisions.

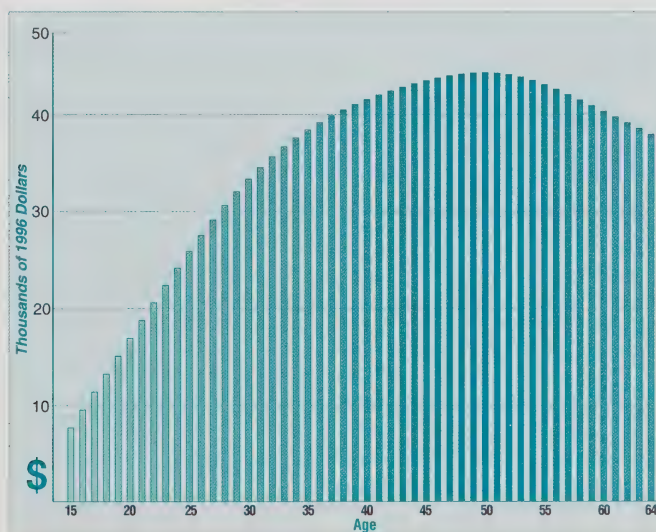
Profiles of Starting and Lifetime Earnings

How much a worker can earn as a starting salary in a specific job and over his/her lifetime, if he/she stayed in that job, depends on many factors, including:

- Individual skills, talents and interests.
- Individual level of education and area of study.
- Individual work-related experience.
- Hours of work in a specific job.
- General labour market conditions.
- The employer and specific job conditions.

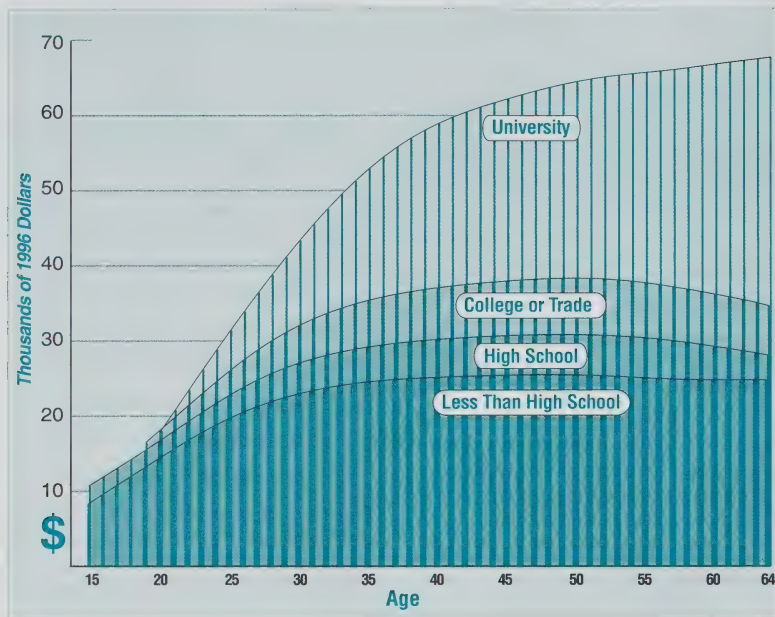
Generally, occupational earnings tend to follow a pattern over people's work lives. Earnings are generally low in the early working years and rise to a peak which may occur at different ages depending on the optimal combination of experience, skills and occupational labour market conditions. The general pattern for the workforce as a whole is illustrated in Graph 3.1.

Graph 3.1 — *Lifetime Employment Earnings Profile – Total Workforce*



Source: 1996 Census. Data have been smoothed with a Hodrick-Prescott filter (Parameter=100).

Graph 3.2 — *Lifetime Employment Earnings Profile by Skill Level*



Source: 1996 Census. Data have been smoothed with a Hodrick-Prescott filter (Parameter=100).

In addition, starting and lifetime earnings profiles are generally linked with levels of education and training. Occupations generally requiring post-secondary training have above-average starting and lifetime salaries, while those requiring high school or less generally have below-average starting and lifetime salaries. The lifetime employment earnings profiles for occupations from the four NOC (National Occupation Classification) education/skill levels are compared in Graph 3.2.

Although starting and lifetime earnings generally tend to be higher for progressively higher levels of education attained, earnings profiles of individuals with the same level of

education can differ significantly depending on the field of study and occupation chosen.

Table 3.1 provides a sample of how earnings profiles can vary at each level of education. For example, at the university level, earnings profiles for occupations such as doctor or dentist are significantly higher than for occupations in the social sciences. It also indicates that although starting salaries may be similar, overall lifetime employment earnings can be quite different, as one can see by comparing the earnings profiles for architects versus librarians. A more detailed list of occupations can be found in Appendix B in Table A.3.1.

Table 3.1 — *Examples of Starting and Lifetime Employment Earnings, by Occupation and Skill Level*

		Starting Earnings \$	Lifetime Employment Earnings \$
Overall Average for All Occupations.....		20 600	1 597 200
NOC	Examples of Occupations generally requiring a University degree (Skill Level A)		
311	Physicians, dentists and veterinarians	57 100	4 183 900
313	Pharmacists, dietitians and nutritionists	45 200	1 995 300
216	Mathematicians and computer programmers	36 500	1 973 700
111	Auditors, accountants and investment professionals	32 600	2 181 400
215	Architects, urban planners and land surveyors	27 800	1 877 500
511	Librarians, archivists, conservators and curators	27 200	1 485 500
Average for Skill Level A		34 800	1 994 100
NOC	Examples of Occupations generally requiring a College diploma (Skill Level B)		
725	Plumbers, pipefitters and gas fitters	32 700	1 596 000
321	Medical technologists and technicians	29 200	1 604 900
723	Machinists and related occupations	28 800	1 661 000
421	Social services workers and occupations in education	23 900	1 344 700
522	Photographers, graphic arts technicians	20 900	1 409 200
124	Secretaries, recorders and transcriptionists	20 500	1 137 600
Average for Skill Level B		24 100	1 439 200
NOC	Examples of Occupations generally requiring a High School diploma (Skill Level C)		
941	Machine operators & related workers in metal products	23 800	1 662 000
341	Assisting occupations in support of health services	21 300	1 020 300
741	Motor vehicle and transit drivers	18 400	1 410 500
642	Retail salespersons and sales clerks	15 700	1 151 200
647	Childcare and home support workers	14 400	757 100
645	Occupations in food and beverage service	12 800	728 600
Average for Skill Level C		18 500	1 220 500
NOC	Examples of Occupations generally requiring less than a High School diploma (Skill Level D)		
663	Elemental medical and hospital assistants	25 400	1 108 000
861	Primary production labourers	22 500	1 383 700
665	Security guards and related occupations	19 500	1 116 000
667	Other attendants in travel, accommodation & recreation	15 400	1 128 000
666	Cleaners	14 700	1 072 000
661	Cashiers	11 800	837 000
Average for Skill Level D		15 200	1 099 800
NOC	Examples of Management Occupations		
081	Managers in primary production (except agriculture)	40 500	2 967 700
021	Managers in engineering, architecture & information systems	37 200	2 577 200
031	Managers in health, education, social & community services	32 300	2 052 200
071	Managers in construction and transportation	31 700	1 930 000
012	Managers in financial and business services	28 800	2 411 700
062	Managers in retail trade	17 300	1 392 600
Average for Management Occupations		27 100	2 010 800

Source: 1996 Census and John Appleby et al., 'Distribution of Rates of Return by Field of Study and Level of Education', Human Resources Development Canada, Applied Research Branch, fall 2000.

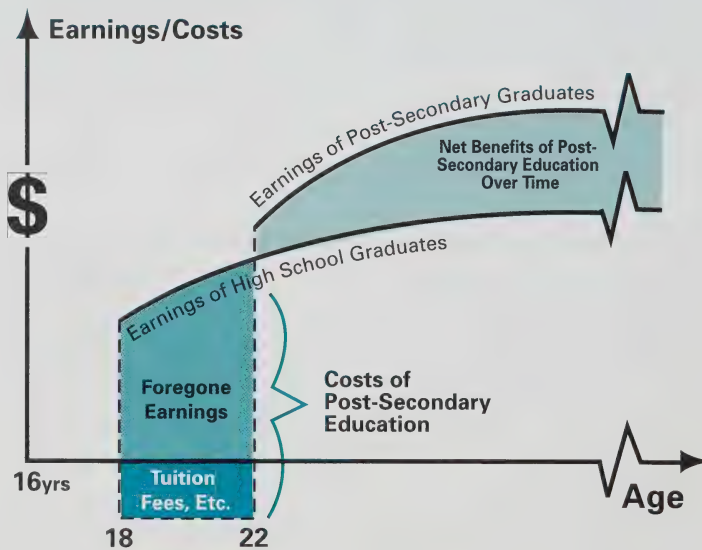
Rates of Return to Investing in a Post-secondary Education

Generally, investing in a post-secondary education is a sound financial decision. There are many reasons why people decide to spend time and money on post-secondary education, including:

- Interest in a specific career that requires a post-secondary qualification.
- Specific skills that can be developed only through post-secondary education or training.
- Consideration of education as an investment toward higher earnings. As seen in Table 3.1, starting salaries and lifetime earnings are generally higher for those with higher levels of education and training.

People considering a post-secondary education from a financial perspective can detail the costs and benefits of their investment. Figure 3.1 presents an overall picture of the benefits and costs associated with the decision of pursuing a post-secondary diploma relative to a high school diploma. Benefits include the extra earnings that the individual would make by continuing his/her education as opposed to entering the labour market immediately upon graduation from high school. Costs include tuition, books, and foregone earnings i.e. potential earnings that a person gives up if they continue their education rather than enter the labour market directly after high school.

Figure 3.1 — *Profile of Relative Benefits and Costs Over Time – Post-secondary vs. High School Graduates*



Source: Graph adapted from "Labour Market Economics", Morley Gunderson and W. Craig Ridell, McGraw-Hill Ryerson, 1993.

Table 3.2 below illustrates a calculation of the rate of return to investing in post-secondary education by providing an example of how educational choices can impact lifetime employment earnings.

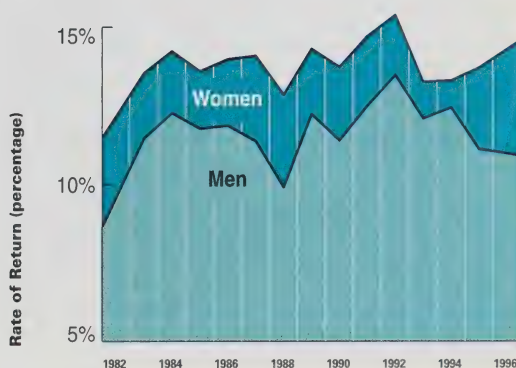
Table 3.2 — *Rate of Return to Education: Illustration of the case of two different educational profiles*

The Story of Two Students (graduating from high school in the same year)		
	Ashley	Max
Educational/work choice	Goes to university to become an electrical engineer.	Immediately enters the world of work as a machine operator in the food and beverage industry. Starting salary: \$17,700*.
Costs	Annual costs are \$27,700--\$10,000 for tuition, books and living expenses plus earnings lost by not immediately entering the labour market, i.e., \$17,700*. Total cost of pursuing a five-year honours degree in electrical engineering is \$138,500 (\$27,700 x 5 years).	Living expenses.
Benefits	As an electrical engineer, Ashley is expected to earn \$2,279,400 over her working life, from age 23-65.	As a machine operator, Max is expected to earn \$1,372,600 over his working life, from age 19-65.
Net Benefits	Ashley will earn \$906,800 more in lifetime employment income than Max.	
Rate of return on post-secondary education	Ashley invested \$138,500 and earned an additional \$906,800—a 15.7% annual rate of return.	None.

* \$17,700 is the average starting salary for a recent high school graduate in this occupation.

Considering both the financial costs and benefits, research results from Applied Research Branch in Human Resources Development Canada¹ suggest that, in general, Canadians profit from investing in a post-secondary education. For example, over the course of their working lives, university graduates will realize an average financial gain of 10% to 15% over and above what they would have earned with only a high school diploma. This is based on rates of return estimated during the 1981-1996 period, as presented in Graph 3.3. The difference between men and women can be explained by significant differences in the foregone earnings associated with the decision to pursue post-secondary education instead of working. Although women are increasingly present in the labour market, their average earnings are still below those of men. Thus, they generally sustain a smaller loss of potential income than men would. These lower overall 'costs' of pursuing post-secondary education translate into a higher rate of return for women.

Graph 3.3 — *Rate of Return to Education of a University Degree, when compared to a High School Diploma*



Source: Data from Statistics Canada — Survey of Consumer Finance and Centre for Education Statistics

¹ John Appleby et al., 'Distribution of Rates of Return by Field of Study and Level of Education in Canada', Human Resources Development Canada, Applied Research Branch, fall 2000.

Research results show substantial differences in the rates of return for diverse fields of study and areas of specialization at the university and community college levels (see Tables 3.3 and 3.4).

Table 3.3 — Examples of Distribution of Rates of Return to Education by Field of Study

University Level (Undergraduate)²

Field of Study	Median (%)	Minimum/Maximum (%)
Education		
Physical Education, Recreation & Tourism.....	8.1	1.7 to 17.6
Teaching.....	9.3	1.2 to 18.3
Counselling & Personal Development.....	12.8	2.2 to 26.8
Arts & Humanities		
Fine Arts.....	6.3	-3.4 to 14.9
History.....	9.0	1.6 to 19.9
English.....	9.1	1.4 to 18.1
Administration & Social Sciences		
Anthropology.....	6.7	-2.1 to 16.9
Sociology.....	8.3	1.0 to 18.4
Business & Commerce.....	13.1	5.8 to 24.4
Chemistry, Physical & Natural Sciences		
Agriculture.....	6.9	-1.8 to 15.4
Biology & Biochemistry.....	7.7	0.2 to 16.9
Physics.....	11.5	3.6 to 21.7
Architecture & Engineering		
Architecture.....	9.7	2.8 to 19.2
Forestry.....	9.6	3.0 to 18.4
Electronic Engineering.....	17.4	9.7 to 28.2
Health		
Rehabilitation Medicine.....	9.9	1.5 to 18.1
Nursing.....	12.6	2.6 to 25.4
Dentistry.....	21.4	12.1 to 33.2

Source: John Appleby et al., 'Distribution of Rates of Return by Field of Study and Level of Education in Canada', Human Resources Development Canada, Applied Research Branch, fall 2000.

The median return on a university degree varies from slightly more than 1% for religious studies; to a little over 6% for fine arts, music, anthropology and agriculture; to just over 20% for health care disciplines such as medicine and dentistry.

There are also significant differences in the rates of return within aggregate fields of study, i.e., health, engineering, natural sciences, social sciences, arts and humanities and education. For example, in social sciences, the rate of return

is about half as high for anthropology (6.7%) as compared to law (15.9%) or economics (13.3%).

Rates of return for a community college diploma have a range of variation for different fields of study that is, overall, similar to that at the university level, i.e., the median return is between 2% to 23% at the community college level, and 1% to 23% for different fields of university study.

Table 3.4 — Examples of Distribution of Rates of Return to Education by Field of Study

College Level²

Field of Study	Median (%)	Minimum/Maximum (%)
Education		
Counselling & Personal Development.....	2.0	-23 to 18
Physical Education.....	8.0	-8.2 to 27.9
Teaching.....	9.4	-5.6 to 31.3
Arts & Humanities		
Performing Arts.....	5.1	-25.3 to 23.7
Library Sciences & Museum Technology.....	8.5	-6.9 to 27.6
Journalism.....	16.1	1.8 to 37.1
Administration & Social Sciences		
Business & Commerce.....	11.8	-3.0 to 32.2
Social Services.....	16.3	-1.7 to 43.8
Agriculture & Domestic Science		
Agriculture.....	3.6	-17.9 to 23.4
Animal Husbandry.....	5.6	-14.6 to 24.0
Nutrition, Consumer & Domestic Science.....	6.2	-18.4 to 25.2
Architecture, Mathematics & Engineering		
Building Technology.....	6.1	-11.1 to 26.1
Civil Engineering Technologies.....	17.8	-1.0 to 37.7
Biological Resource Engineering.....	17.9	0.8 to 37.7
Health		
Nursing.....	8.8	-5.7 to 29.5
Medical Laboratory Technology.....	16.2	-0.08 to 38.7
Public Health, Epidemiology & Biostatistics.....	16.8	-0.3 to 47.8

Source: John Appleby et al., 'Distribution of Rates of Return by Field of Study and Level of Education in Canada', Human Resources Development Canada, Applied Research Branch, fall 2000.

² Please note that these field of study titles may not correspond exactly to those used in *Part 2: Outlooks by Field of Study*, due to different data sources.

Tables 3.3 and 3.4 also demonstrate that the return on investing in post-secondary education may vary considerably for people in the same field of study. The different medians and ranges between minimum and maximum rates of return indicate the variation that can occur among individuals.

For example, for university graduates, the widest variations are found in the arts and humanities, specifically:

- Fine arts: -3.4% to 14.9%.
- Music: -1.4% to 15.6%.
- Theology: -21.3% to 12.8%.

Negative rates of return³ also occur for a proportion of graduates from other fields of study in the natural sciences (e.g. agriculture) and the social sciences (e.g. anthropology).

The variance in rates of return for individuals are greater for community college graduates than for those with university

degrees when comparing the same field of study. In addition, at the community college level, there are more fields of study with negative rates of return.

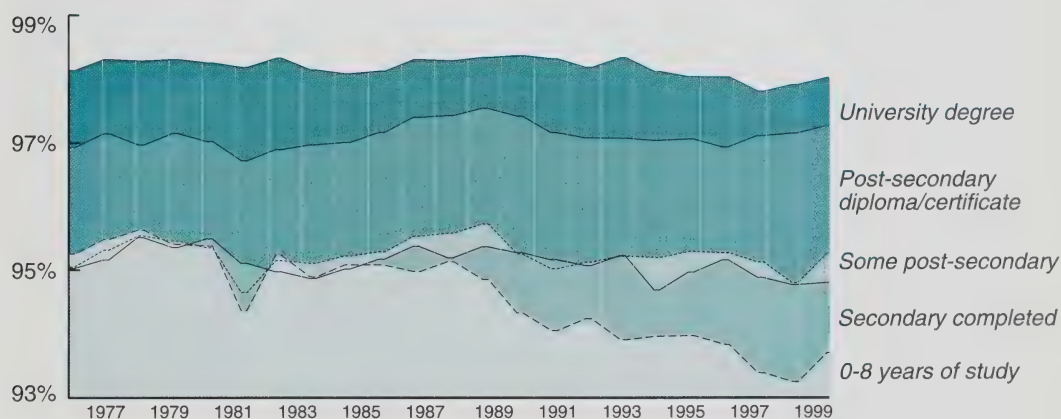
The wide variation in rates of return within the same field of study at the university and community college levels suggests that, in some cases, a post-secondary education does not, in itself, guarantee increased financial rewards.

Detailed lists of the rates of return to education for more fields of study can be found in Appendix B, in Table A.3.3 for university and Table A.3.4 for college.

Labour Market Employability and Unemployment

An individual's level of education affects his/her employability (i.e. higher probability of staying employed for a longer period). Graph 3.4 demonstrates that, over the past thirteen years, higher levels of education generally lead to better labour market employability.

Graph 3.4 — *Probability of Staying Employed by Education Level, Total Workforce*



Source: Labour Force Survey.

³ A negative rate of return means that the individual is experiencing a net financial loss compared to what he/she would have earned with only a high school diploma.

In addition, an examination of the unemployment rate by level of education over the past three decades also suggests that the higher the level of education, the lower the unemployment rate.

Labour market employability is also largely influenced by individual occupational choices. In general, the average unemployment rate in 1998 was higher for occupations which require no post-secondary training -- i.e. high school diploma (7.2%) or less than high school (10.9%) -- than for occupations requiring post-secondary education -- i.e. management (2.8%), university degree (2.9 %), college or trade diploma or certificate (5.2%).

However, some occupations requiring community college or another post-secondary diploma have lower unemployment

rates than those requiring a university degree. For example, technical occupations in electronics, electrical engineering and health care, which generally require a community college diploma, have lower unemployment rates than university professor and assistant, life science professional, architect, urban planner, land surveyor, and college and other vocational instructor.

Table 3.5 provides the average and range of unemployment rates for the 1996-98 period by level of education, with some sample occupations within each range. A full list of unemployment rates for all occupational groups by skill level can be found in Appendix B in Table A.3.5.

Table 3.5⁴ — *Distribution of Unemployment Rates by Skill Level*

	Average (%)	Minimum/ Maximum (%)
National Unemployment Rate	6.0	
Professional Occupations: those usually requiring a university degree (Skill Level A)	2.9	0.6 to 5.1
Sample Occupations		
Creative and Performing Artists	5.1%	
Architects, Urban Planners and Land Surveyors	4.0%	
Systems Analysts and Computer Programmers	2.7%	
Physicians, Dentists and Veterinarians	0.6%	
Technical, Paraprofessional, Skilled Occupations: those usually requiring a college/trade diploma (Skill Level B)	5.2	1.1 to 19.4
Sample Occupations		
Logging Machinery Operators	19.4%	
Chefs and Cooks	10.1%	
Sales and Services Supervisors	4.1%	
Police Officers and Firefighters	1.1%	
Intermediate Occupations: those usually requiring a high school diploma (Skill Level C)	7.2	3.0 to 32.3
Sample Occupations		
Other Fishing and Trapping Occupations	32.3%	
Heavy Equipment Operators	13.1%	
Clerical Occupations, General Office Skills	6.2%	
Assisting Occupations in Support of Health Services	3.0%	
Labouring and Elemental Occupations: those usually requiring less than high school graduation (Skill Level D)	10.9	3.6 to 24.1
Sample Occupations		
Primary Production Labourers	24.1%	
Public Workers Labourers	13.0%	
Cashiers.....	7.1%	
Elemental Medical and Hospital Assistants	3.6%	
Management Occupations	2.8	0.9 to 10.0
Sample Occupations		
Managers in Protective Services	10.0%	
Managers in Construction and Transport	3.3%	
Administrative Services Managers	2.4%	
Managers in Communications Services.....	0.9%	

Source: Labour Force Survey, average of the 1996-1998 period.

4 The unemployment rate for all occupations includes, as unemployed, only those unemployed persons who also held employment within the past twelve months, because they can be classified to an occupation. The result is that the unemployment rate in *Job Futures 2000* is considerably lower than that for the entire labour force which is often the one reported in the media.

Conclusion

The decision to pursue a post-secondary education depends greatly on individual interests, skills, talents, and intended career path. However, financial considerations can play a role in making key educational and career choices.

In general, investing in a post-secondary diploma is a sound financial decision for a majority of Canadians. People with post-secondary education usually:

- have a higher starting and lifetime earnings;
- are more resilient to withstanding turbulence in the labour market; and,
- are more likely to experience favourable labour market conditions.

However, this investment is not a guarantee of financial profitability. Within the same level of education, there are variations in earnings profiles, labour market accessibility, and rates of return to education.

These variations depend on the field of study, occupational choice and other individual factors. Therefore, when making strategic career and educational decisions, Canadians must base their choices not only on personal factors such as skills, interests and talents, but also on reliable labour market information regarding specific occupations and the various labour market outcomes related to each occupation.

Chapter 4

Across Canada

Prospects for finding work in any occupation will vary over time, as well as across different sectors and locations. It is possible for an occupation to have a favourable outlook in one province but be less favourable in others. An overall rating at the national level will depend on the relative balance between any such disparities.

Why do labour markets and occupational outlooks vary? A number of factors may influence the short or longer term outlook for finding work in a particular occupation or geographical area, or within a particular timeframe. These include:

- **Variations in the economic structure** upon which a province, region or local area is built (e.g. manufacturing, natural resources, high-tech, services). Not only does the current structure imply that the composition of the workforce and the type of work available may vary, but also that changing conditions will have different labour market implications (e.g. a drop in the world oil price will impact Alberta's energy sector, and subsequently the size or composition of its workforce, more than that of Ontario).
- **Different positions in the economic cycle.** One province may be booming while another is struggling, depending on the major sources of economic activity.
- **Institutional factors**, such as different political structures, government policies, laws or regulations.

Reviewing the current situation and the future outlook for an occupation at the national level helps to identify key overall trends. However, these trends may not exist, or may follow a different timetable, at provincial or local levels. National trends are important for occupations that generally exist in most locales across the country, such as engineers or computer programmers, or for occupations with skills that are relatively easy to transfer, such as management or secretarial occupations.

Location is an important factor to consider in the search for employment. If a person is closely tied to a particular area, it is important to have specific information on the labour market and work prospects in that area to help make an informed career decision. Or, if a person has a good idea of the kind of work he/she is looking for and is willing to relocate, they may need to compare various sources of information in order to find the location with the best prospects.

Therefore, to ensure you have the information that best fits the circumstances for the individual in question, it is advisable to consult and compare information about the world of work at national, provincial and local levels.

Sample Occupations with Favourable Outlooks by Province

To illustrate some of the similarities and differences that can occur across the country, refer to the following map to review a sample list of ten occupations with a favourable outlook for Canada, for each province, and for Yukon.¹ It is important to note that methodologies and forecast periods used to determine the sample occupations presented may differ. **Please refer to the brief Summary of Methodologies in Appendix C while examining the sample lists.**

We also encourage you to consult the provincial **Job Futures** or equivalent Internet sites provided with each list for additional information including profiles and outlooks for other occupations, and for more detail on methodologies.

¹ This information is currently unavailable for Northwest Territories and Nunavut.

Across Canada – Sample Occupations with Favourable Outlooks – Figure 4.1

Yukon

Accountants & Auditors
Community & Social Services Workers
Contractors & Supervisors, Trades
Elementary & Secondary School Teachers
Finance & Insurance Clerks
Food Service & Accommodation Managers
Policy & Program Professionals
Registered Nurses
Retail Trade Managers
Secretaries

www.workfutures.yk.ca

British Columbia

Assisting Occupations in Graphic & Digital Arts,
& Technical Occupations in Motion Pictures,
Television & Theatre
Chefs & Cooks
Computer Systems Analysts & Programmers
Graphic Designers, Illustrating Artists, Artisans
& Craftpersons
Managers in Accommodation, Food & Retail Trade
Professional Engineers
Registered Nurses
Social Workers; Community & Social Service Workers
Technical Sales Specialists & Representatives,
Wholesale

www.workfutures.bc.ca

Alberta

Auditors, Accountants & Investment Professionals
Civil, Mechanical, Electrical & Chemical Engineers
Contractors & Supervisors, Trades & Related Workers
Food Counter Attendants & Kitchen Helpers
Mathematicians, Systems Analysts & Computer Programmers
Medical Technologists & Technicians
Nursing Supervisors & Registered Nurses
Occupations in Food & Beverage Service
Primary Production Labourers
Secondary & Elementary School Teachers & Counsellors

www.ab.hrdc-drhc.gc.ca/lmi/main/futures.htm
www.alis.gov.ab.ca

Saskatchewan

Auditors, Accountants & Investment Professionals
Logging & Forestry Workers
Machinery & Transportation Equipment Mechanics
(except Motor Vehicle)
Motor Vehicle & Transit Drivers
Nurse Supervisors & Registered Nurses
Pharmacists, Dietitians & Nutritionists
Physicians, Dentists & Veterinarians
Systems Analysts & Computer Programmers
Technical Sales Specialists, Wholesale Trade
Therapy & Assessment Professionals

www.sk.hrdc-drhc.gc.ca/lmi/en/menu/00000e.shtml

National

Aircraft Mechanics
Computer Systems Analysts & Programmers
Engineers
Health Care Professionals (Doctors, Dentists, Optometrists,
Chiropractors, Nurses)
Heavy Equipment Operators
Management, Advertising & Marketing Consultants
Medical Technologists & Technicians
Plumbers & Pipefitters
Police Officers & Firefighters
Tool & Die Makers, Machinists & Machine Tool Operators

www.hrdc-drhc.gc.ca/JobFutures

Manitoba

Aircraft Maintenance Engineers (AME's)
Aircraft Maintenance Technicians
Computer Programmers
Computer Systems Analysts
Financial Auditors & Accountants
Heavy Duty Equipment Mechanics
Machinists
Pharmacists
Registered Nurses & Registered Psychiatric Nurses
Truck Drivers

www.mb.hrdc-drhc.gc.ca/menu/lmi.shtml
www.edu.gov.mb.ca/tce/carjob/occ_car_info/occ_car_info.htm

Quebec

Auditors, Accountants & Investment Professionals
Computer Programmers
Computer Systems Analysts
Customer Service, Information & Related Clerks
Early Childhood Educators & Assistants
Engineers, notably Electrical & Electronic, Computer & Aerospace
Human Resources & Business Service Professionals
Mechanical, Electrical & Electronics Assemblers
Technical Occupations in Electronics & Electrical Engineering
Technical Sales Specialists, Wholesale Trade

www.qc.hrdc-drhc.gc.ca/job-futures

P.E.I.

Aircraft Mechanics & Aircraft Inspectors
Computer Systems Analysts & Computer Programmers
Customer Service, Information & Related Clerks
Food & Beverage Servers
Hairstylists & Barbers
Long Haul Truck Drivers
Motor Vehicle Mechanics, Technicians & Mechanical Repairers
Registered Nurses
Retail Salespersons & Sales Clerks
School Teachers

www.pei.jobfutures.org

Newfoundland

Civil Engineers
Computer Programmers
Deck Officers, Water Transport
Financial Auditors & Accountants
General Practitioners & Family Physicians
Pharmacists
Registered Nurses
Respiratory Therapists
School & Guidance Counsellors
Veterinarians

www.nf.hrdc-drhc.gc.ca
www.gov.nf.ca

Nova Scotia

Computer Programmers
Computer Systems Analysts
General Practitioners & Family Physicians
Graphic Designers & Illustrating Artists
Managers in Engineering, Architecture, Science & Information Systems
Professional Occupations in Business Services to Managers
Nurse Supervisors & Registered Nurses
Pharmacists
Retail Salespersons & Sales Clerks
Technical Sales Specialists, Wholesale Trade

www.ns.hrdc-drhc.gc.ca/english/index.htm
www.ednet.ns.ca/educ/career/

New Brunswick

Chemical Engineers
Computer Systems Analysts
General Practitioners
Non-Technical Sales Representative, Wholesale Trade
Nurses
Pharmacists
Physiotherapists
Professional Occupations in Business Services to Management
Secondary School Teachers
Translators, Terminologists, & Interpreters

www.nb.hrdc-drhc.gc.ca/common/lmi/jobf/nofrmij_e.html

Ontario

Chefs
Computer Engineers
Computer Systems Analysts & Programmers
Electrical & Electronics Engineering Technologists & Technicians
Machinists & Machining & Tooling Inspectors
Mechanical Engineers
Mechanical & Industrial Engineering & Manufacturing Technologists/Technicians
Registered Nurses
Secondary & Elementary School Teachers
Tool & Die Makers

www.on.hrdc-drhc.gc.ca/english/lmi/eaidd/occ/info/ojt/jobf_e.html
www.edu.gov.on.ca/eng/career/labmark.html

Overview of Job Futures Outlooks

Introduction

This chapter builds on the general labour market trends discussed in Chapter 1 which were presented from various perspectives – by aggregate industrial and occupational groups, as well as by aggregate education and skill levels – and relates them to the detailed outlooks provided in *Part 1: Outlooks by Occupation* and *Part 2: Outlooks by Field of Study* of the *Job Futures 2000* suite.

Section 5.1, 'Overview of Outlooks by Occupation', provides a summary of overall trends and prospects for finding work related to the current and future occupational labour market conditions detailed in the 211 profiles in *Part 1: Outlooks by Occupation*. Section 5.2, 'Overview of Outlooks by Field of Study', provides a summary of overall trends and prospects for finding work related to the current and future labour market conditions for recent post-secondary school graduates detailed in the 155 profiles in *Part 2: Outlooks by Field of Study*.

5.1 Overview of Outlooks by Occupation

Table 5.1.1 presents the average rating of occupational labour market conditions in 1998 and 2004, aggregated by skill level and skill type. Skill level refers to the minimum level of education and training generally required to work in these occupations. The skill type of an occupation refers to the broad industry category in which the occupation is concentrated. Further information on occupational skill levels and skill types is available in *Part 1: Outlooks by Occupation*, in "Understanding the Occupational Profiles", in the 'About the National Occupational Classification (NOC)' section.

Table 5.1.1.1 — *Summary Table of Occupational Labour Market Conditions – Current and 2004*

Skill Types	Skill Levels									
	Managerial		Professional		Technical, Paraprofessional & Skilled		Intermediate		Labouring and Elemental	
	Current - 2004	Current - 2004	Current - 2004	Current - 2004	Current - 2004	Current - 2004	Current - 2004	Current - 2004	Current - 2004	Current - 2004
Business, Finance & Administration	good - good	good - good	good - good	good - good	fair - fair	fair - fair	--	--	good - good	good - good
Natural & Applied Sciences	good - good	good - good	good - good	good - good	--	--	--	--	good - good	good - good
Health	good - good	good - good	good - good	fair - fair	fair - fair	fair - fair	--	--	good - good	good - good
Social Science, Education, Government Services & Religion	good - good	fair - fair	fair - fair	fair - fair	--	--	--	--	fair - fair	fair - fair
Art, Culture, Recreation & Sport	good - good	fair - fair	fair - fair	fair - fair	--	--	--	--	fair - fair	fair - fair
Sales & Services	good - good	--	fair - good	fair - good	fair - limited	fair - limited	limited - limited	limited - limited	fair - limited	fair - limited
Trades, Transport & Equipment Operators	fair - good	--	fair - fair	fair - fair	fair - fair	fair - fair	limited - limited	limited - limited	fair - fair	fair - fair
Primary Industry	good - fair	--	fair - fair	fair - fair	limited - limited	limited - limited	limited - limited	limited - limited	fair - fair	fair - fair
Processing, Manufacturing & Utilities	good - good	--	good - good	good - good	fair - fair	fair - fair	limited - limited	limited - limited	fair - fair	fair - fair
All	good - good	good - good	good - good	fair - fair	fair - fair	fair - fair	limited - limited	limited - limited	fair - fair	fair - fair

Source: "Canadian Occupational Projection System (COPS), 1999 Reference Scenario", T-99-1E, Applied Research Branch, HRDC.
See definitions of "Good", "Fair" and "Limited" in the "Glossary of Terms".

5.1.1 Overview by Skill Level

This section provides information on occupational labour market conditions from an aggregate skill-level perspective. There are five skill levels: managerial; professional (usually requires a university degree); technical, paraprofessional and skilled (usually requires a community college certificate or diploma or apprenticeship); intermediate (usually requires high school graduation); and labouring and elemental (usually requires less than high school graduation).

Each of the five sub-sections below provides an overview of the current and future outlooks for finding work at that skill level, and two summary graphs: the first indicates the distribution of occupations in that skill level across the nine skill types, and the second provides an indication of the largest occupations and their share of employment within that skill level.

By their nature, aggregate outlooks represent an average of the factors used to determine the detailed outlooks for the underlying occupations. For further occupational detail or to get an idea of which occupations within a skill level have outlooks that differ from the overall ratings, refer to the individual profiles in *Part 1: Outlooks by Occupation*, or to the *Job Futures 2000* web site:

www.hrdc-drhc.gc.ca/JobFutures. The 'Overview by Skill Level' section on the website also contains tables providing additional explanations of why an outlook may differ from the overall rating.

Management Occupations

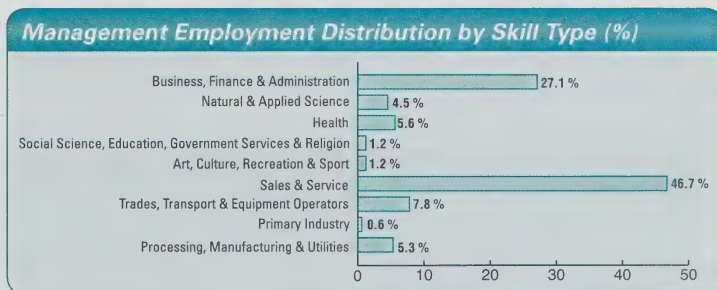
17% of new jobs created over the 1999-2004 period are expected to be in management occupations...

The management occupations accounted for 11.1% (1,476,606) of total 1998 non-student employment.

Graph 5.1.1 highlights the fact that the largest share (47%) of managers is in the sales and service skill type. Graph 5.1.2 indicates that the largest occupation in this grouping is retail trade managers, accounting for approximately 27% of all managers.

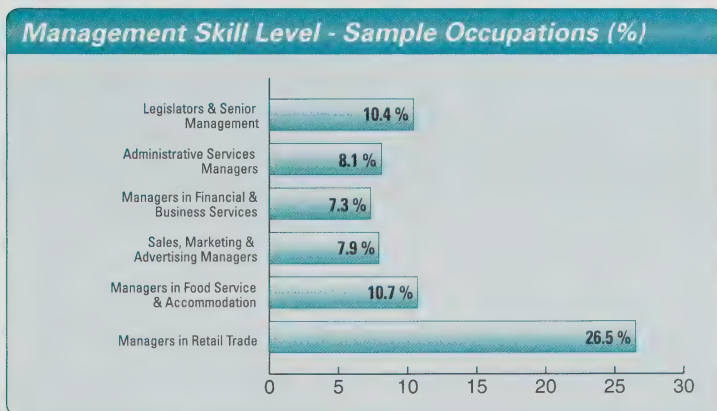
Currently labour market conditions for management occupations are rated as *good*. This rating follows from the fact that the unemployment rate for this occupational group is about one-half the economy-wide average and earnings are 16% above average. Over the 1999 to 2004 projection period labour market conditions are expected to remain *good*, although the number of new job seekers is expected to slightly exceed the number of new job openings.

Graph 5.1.1



Source: Statistics Canada, Labour Force Survey (1998)

Graph 5.1.2



Source: Statistics Canada, Labour Force Survey (1998)

Professional Occupations — Skill Level A

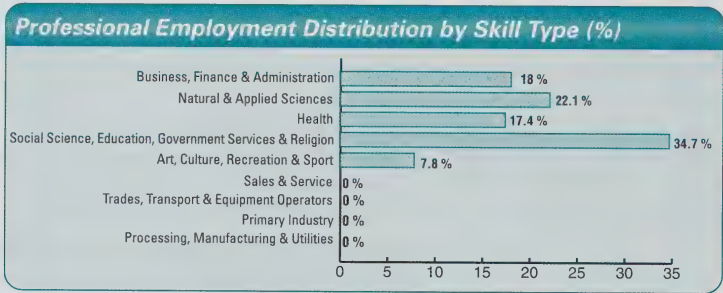
23% of new jobs created over the 1999-2004 period are expected to be in occupations generally requiring a university degree....

Occupations requiring a university degree or diploma accounted for 16.7% (2,238,687 people) of total 1998 non-student employment.

Graph 5.1.3 highlights the fact that the largest share (35%) of professional occupations is in the social science, education and government skill type. Graph 5.1.4 indicates that the largest occupation in this grouping is elementary and secondary school teachers and counsellors, accounting for approximately 17% of employment in professional occupations.

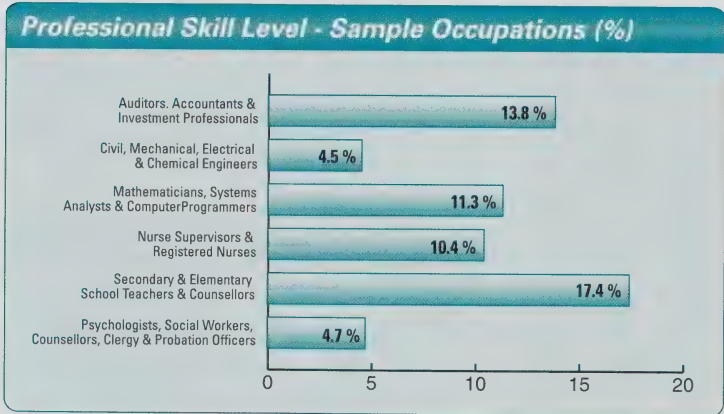
Currently labour market conditions for professional occupations are rated as *good*. This rating follows from the fact that the unemployment rate for this occupational group is about one-half the economy-wide average and earnings are 19% above average. Over the 1999 to 2004 projection period labour market conditions are expected to remain *good*, although the number of new job seekers is expected to slightly exceed the number of new job openings.

Graph 5.1.3



Source: Statistics Canada, Labour Force Survey (1998)

Graph 5.1.4



Source: Statistics Canada, Labour Force Survey (1998)

Technical, Paraprofessional and Skilled Occupations — Skill Level B

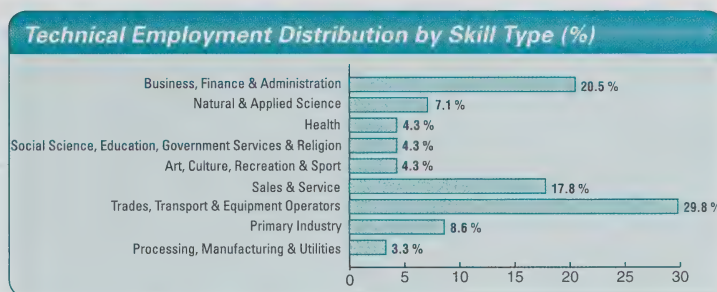
32% of new jobs created over the 1999-2004 period are expected to be in occupations generally requiring a community college diploma or apprenticeship training....

Occupations requiring a community college or trade certificate accounted for 31.8% (4,243,749 people) of total 1998 non-student employment.

Graph 5.1.5 highlights the fact that the largest share (30%) of these occupations is in the trades and transport skill type although Graph 5.1.6 indicates that the largest occupation in this grouping is secretaries, accounting for approximately 8% of employment in technical, paraprofessional and skilled occupations.

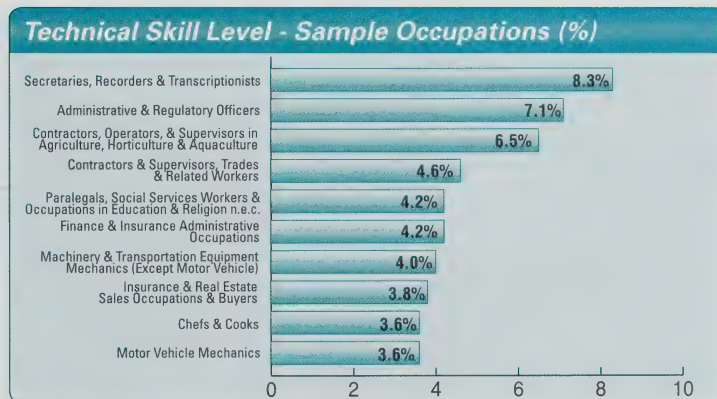
Currently labour market conditions for technical, paraprofessional and skilled occupations are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings in these occupations are about the same as those of the economy-wide averages. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair*, although the number of new job openings is expected to slightly exceed the number of new job seekers.

Graph 5.1.5



Source: Statistics Canada, Labour Force Survey (1998)

Graph 5.1.6



Source: Statistics Canada, Labour Force Survey (1998)

Intermediate Occupations — Skill Level C

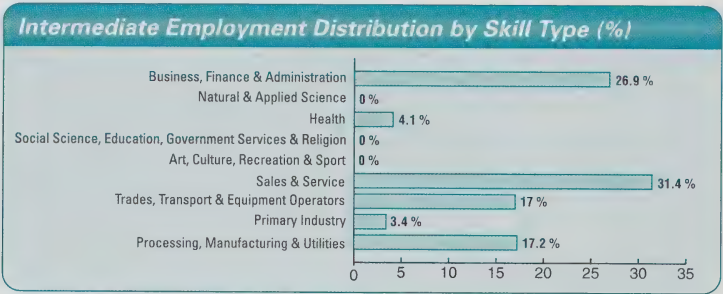
22% of new jobs created over the 1999-2004 period are expected to be in occupations generally requiring high school completion....

Occupations requiring a minimum of high school completion accounted for 30.1% (4,019,364 people) of total 1998 non-student employment.

Graph 5.1.7 highlights the fact that the largest share (31%) of these occupations is in the sales and service skill type. Graph 5.1.8 indicates that the largest occupations in this grouping are retail salespersons and motor vehicle and transit drivers, accounting for approximately 10% each of employment in intermediate occupations.

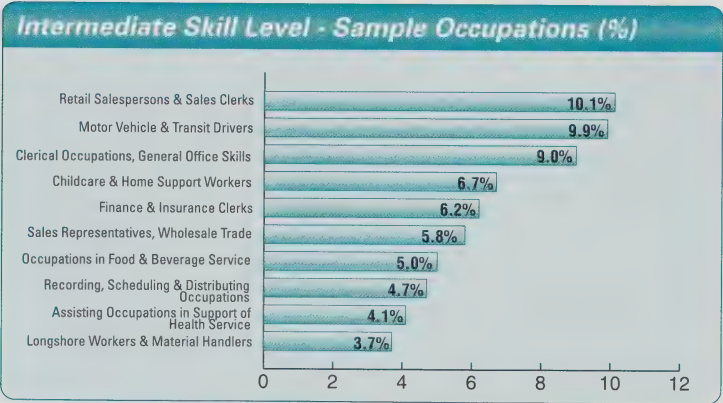
Currently labour market conditions for intermediate occupations are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings in these occupations are about the same as those of the economy-wide averages. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair*, although the number of new job seekers is expected to slightly exceed the number of new job openings.

Graph 5.1.7



Source: Statistics Canada, Labour Force Survey (1998)

Graph 5.1.8



Source: Statistics Canada, Labour Force Survey (1998)

Labouring and Elemental Occupations — Skill Level D

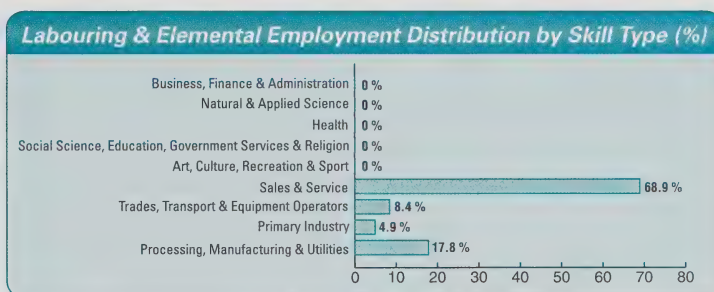
6% of new jobs created over the 1999-2004 period are expected to be in occupations generally requiring less than high school completion....

Occupations requiring some high school training accounted for 10.3% (1,387,045 people) of total 1998 non-student employment.

Graph 5.1.9 highlights the fact that the largest share (69%) of these occupations is in the sales and service skill type. Graph 5.1.10 indicates that the largest occupation in this grouping is cleaners, accounting for approximately 25% of employment in labouring and elemental occupations.

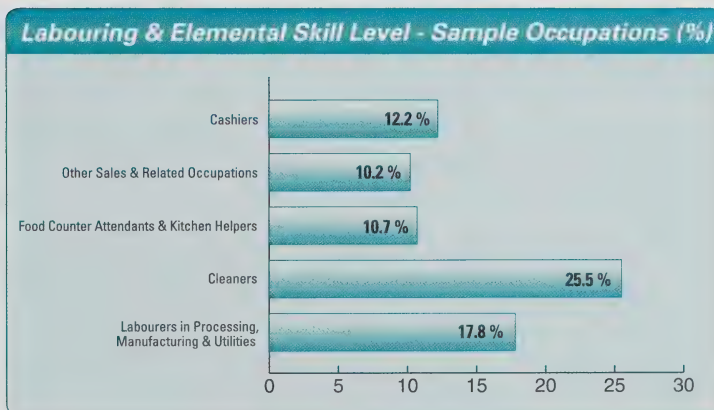
Currently labour market conditions for labouring and elemental occupations are rated as *limited*. This rating follows from the fact that the unemployment rate is almost double the economy-wide average and earnings in these occupations are about 25% below average. Over the 1999 to 2004 projection period labour market conditions are expected to remain *limited*, as the number of new job seekers is expected to slightly exceed the number of new job openings.

Graph 5.1.9



Source: Statistics Canada, Labour Force Survey (1998)

Graph 5.1.10



Source: Statistics Canada, Labour Force Survey (1998)

5.1.2 Overview by Skill Type

This section provides information on occupational labour market conditions from an aggregate skill-type perspective. Occupations are grouped into nine skill types or broad industrial groupings: business, finance and administration; natural and applied sciences; health; social science, education, government service and religion; art, culture, recreation and sport; sales and service; trades, transport and equipment; primary industry; and processing, manufacturing and utilities.

Each of the nine sub-sections below provides an overview of the current and future outlooks for finding work in that skill type, and two summary graphs: the first indicates the distribution of occupations in that skill type across the five skill levels, and the second provides an indication of the largest occupations and their share of employment relative to all workers within that skill type.

By their nature, aggregate outlooks represent an average of the factors used to determine the detailed outlooks for the underlying occupations. For further occupational detail or to get an idea of which occupations within a skill type have outlooks that differ from the overall ratings, refer to the individual profiles in *Part 1: Outlooks by Occupation*, or to the *Job Futures 2000* web site: www.hrdc-drhc.gc.ca/JobFutures. The 'Overview by Skill Type' section on the website also contains tables providing additional explanations of why an outlook may differ from the overall rating.

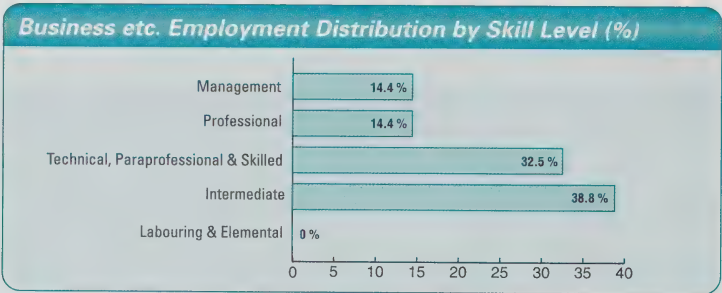
Business, Finance and Administration Occupations — Skill Type 1

14% of new jobs created over the 1999-2004 period are expected to be in business, finance and administration occupations.

The business, finance and administration skill type accounted for 20.9% (2,791,714 people) of total 1998 non-student employment. Graph 5.1.11 highlights the fact that all of these occupations require at least high school graduation and 61% require additional education or training. Graph 5.1.12 indicates that the largest occupation in this grouping is general clerks, accounting for 13% of employment in business, finance and administration.

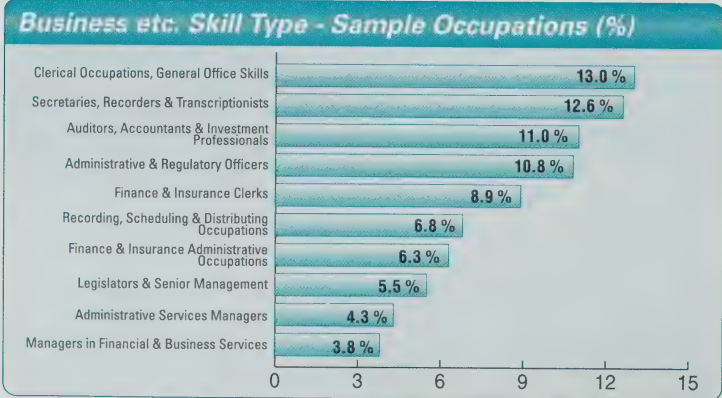
Currently labour market conditions in business, finance and administration are rated as *good*. This rating follows from the fact the unemployment rate in these occupations is about two-thirds that of the economy-wide rate (6%) and earnings are about the same as average. Over the 1999 to 2004 projection period labour market conditions are expected to remain *good*, more as a result of weak growth in the number of new job seekers as opposed to above-average growth in the number of new job openings.

Graph 5.1.11



Source: Statistics Canada, Labour Force Survey (1998)

Graph 5.1.12



Source: Statistics Canada, Labour Force Survey (1998)

Natural and Applied Science and Related Occupations — Skill Type 2

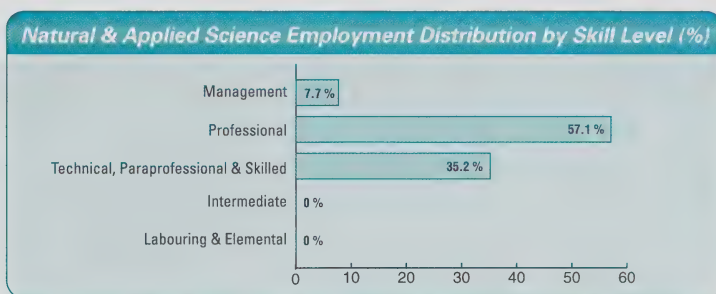
11% of new jobs created over the 1999-2004 period are expected to be in the natural and applied science occupations....

The natural and applied science skill type accounted for 6.5% (863,954 people) of total 1998 non-student employment.

Graph 5.1.13 highlights the fact that a large share (57%) of these occupations require a university degree. Graph 5.1.14 indicates that the largest occupation in this grouping is systems analysts, computer programmers, mathematicians and actuaries, accounting for approximately 29% of employment in natural and applied sciences.

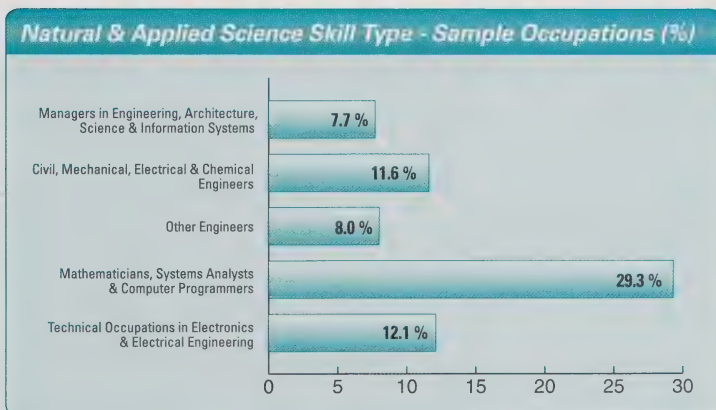
Currently labour market conditions in natural and applied sciences are rated as *good*. This rating follows from the fact that the unemployment rate in these occupations is about three-fifths that of the economy-wide rate (6%) and earnings are about 20% higher than average. Over the 1999 to 2004 projection period labour market conditions are expected to remain *good*, the result of above-average growth in the creation of new jobs, an above-average rate of retirement and below-average growth in the number of new job seekers, especially school leavers.

Graph 5.1.13



Source: Statistics Canada, Labour Force Survey (1998)

Graph 5.1.14



Source: Statistics Canada, Labour Force Survey (1998)

Health Occupations — Skill Type 3

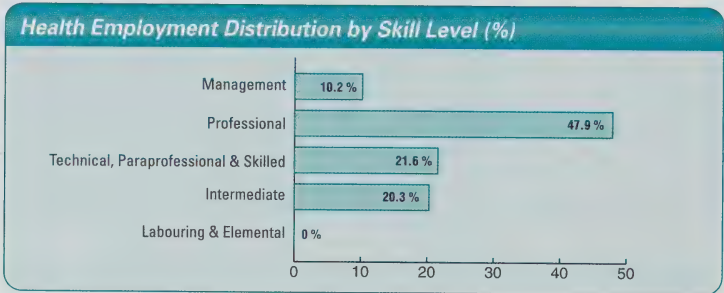
7% of new jobs created over the 1999-2004 period are expected to be in occupations in the health sector....

The health skill type accounted for 6.1% (811,333) of total 1998 non-student employment.

Graph 5.1.15 highlights the fact that a large share (48%) of these occupations generally require a university degree. Graph 5.1.16 indicates that the largest occupation in this grouping is nurses, accounting for approximately 29% of employment in health.

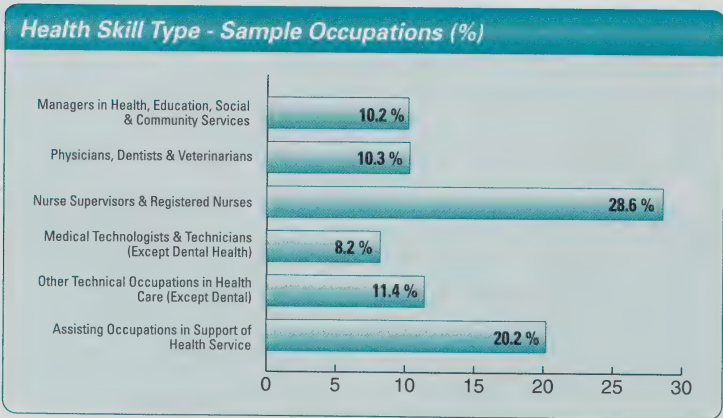
Currently labour market conditions in health are rated as *good*. This rating follows from the fact that the unemployment rate in these occupations is about one-third that of the economy-wide rate (6%) and earnings are 15% higher than average. Over the 1999 to 2004 projection period labour market conditions are expected to remain *good* due to above-average growth in new job creation and retirements (double the rate of increase over the 1994 to 1998 period), a slowing in the growth of school leavers, no change in immigration levels and a decline in the number of occupational re-entrants. New job creation is expected to increase since an aging population requires more attention, there is an increased health consciousness and the sector is recovering from the mid-1990's restructuring of the health care system.

Graph 5.1.15



Source: Statistics Canada, Labour Force Survey (1998)

Graph 5.1.16



Source: Statistics Canada, Labour Force Survey (1998)

Occupations in Social Science, Education, Government Services and Religion — Skill Type 4

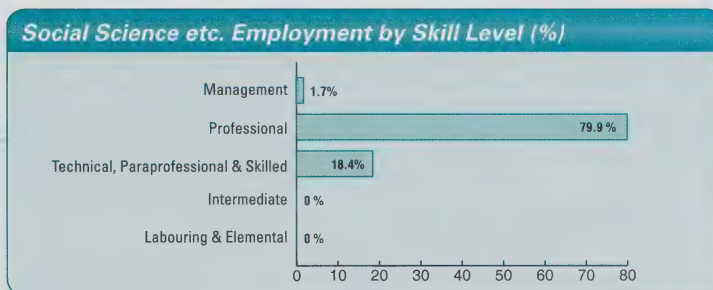
8% of new jobs created over the 1999-2004 period are expected to be in social science, education, government services and religion occupations....

The social science, education, government services and religion skill type accounted for 7.3% (971,363 people) of total 1998 non-student employment.

Graph 5.1.17 highlights the fact that most (80%) of these occupations generally require a university degree. Graph 5.1.18 indicates that the largest occupation in this grouping is elementary/secondary school teachers and counsellors, accounting for approximately 40% of employment in social science, education, government services and religion.

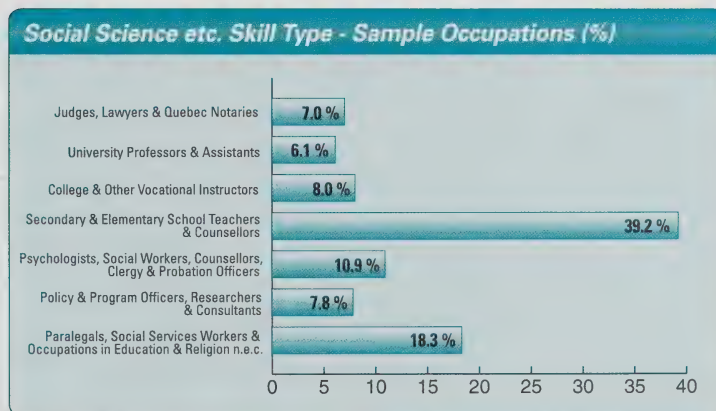
Currently labour market conditions in social science, education, government services and religion are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings in these occupations are only slightly better than those of the economy-wide averages. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair*, the result of an average growth in the creation of new jobs and an above-average rate of retirement being balanced by the growth in the number of new job seekers, especially school leavers.

Graph 5.1.17



Source: Statistics Canada, Labour Force Survey (1998)

Graph 5.1.18



Source: Statistics Canada, Labour Force Survey (1998)

Occupations in Arts, Culture, Recreation and Sport — Skill Type 5

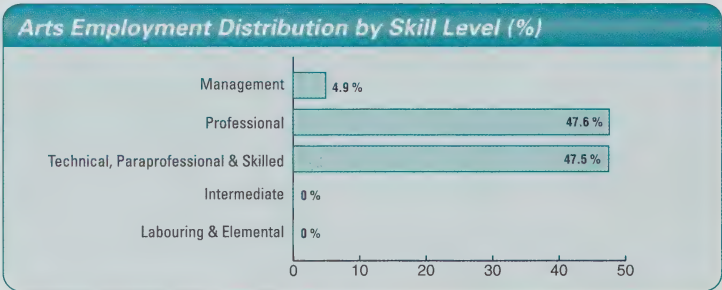
3% of new jobs created over the 1999-2004 period are expected to be in the arts, culture, recreation and sport occupations....

The art, culture, education, recreation and sport skill type accounted for 2.8% (370,206 people) of total 1998 non-student employment.

Graph 5.1.19 highlights the fact that these occupations are split evenly (48% each) between those requiring a university degree and those requiring a community college or trade/vocational diploma or certificate. Graph 5.1.20 indicates that the largest occupations in arts, culture, recreation, and sport are in writing, translating and public relations (21%) and creative and performing arts (21%).

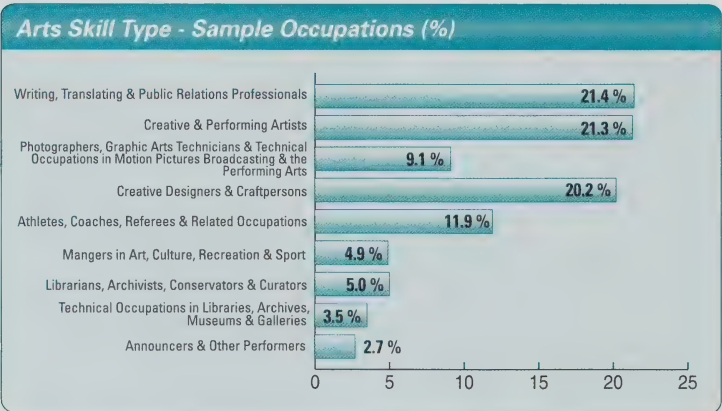
Currently labour market conditions in arts, culture, recreation and sport occupations are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings in these occupations are about the same as those of the economy-wide averages. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair*, the result of average growth in the creation of new jobs and an above-average rate of retirement being balanced by the growth in the number of new job seekers, especially school leavers.

Graph 5.1.19



Source: Statistics Canada, Labour Force Survey (1998)

Graph 5.1.20



Source: Statistics Canada, Labour Force Survey (1998)

Sales and Service Occupations — Skill Type 6

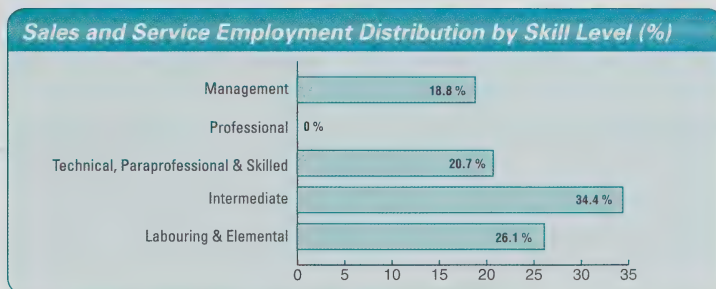
31% of new jobs created over the 1999-2004 period are expected to be in sales and service occupations...

The sales and service skill type accounted for 27.4% (3,669,085 people) of total 1998 non-student employment.

Graph 5.1.21 highlights the fact that the largest share of occupations is concentrated (34%) in occupations requiring high school graduation. Graph 5.1.22 indicates that the largest occupations in sales and service are retail salespersons and sales clerks and retail trade managers (11% each).

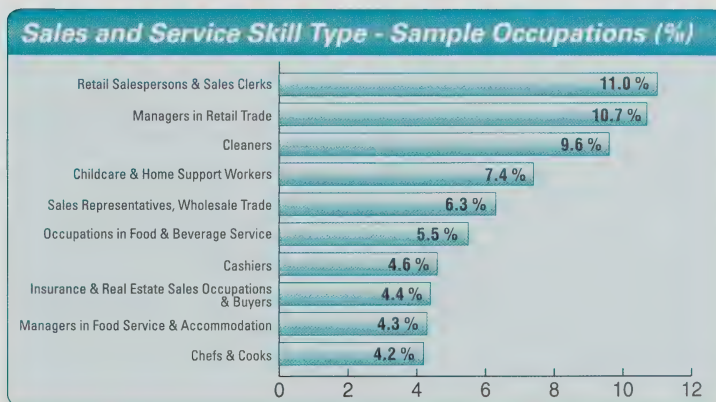
Currently labour market conditions in sales and service are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings in these occupations are about the same as those of the economy-wide averages. Over the 1999 to 2004 projection period labour market conditions are expected to worsen and become *limited*, the result of average growth in the creation of new jobs, a below-average rate of retirement and above-average growth in the number of new job seekers, especially school leavers and immigrants.

Graph 5.1.21



Source: Statistics Canada, Labour Force Survey (1998)

Graph 5.1.22



Source: Statistics Canada, Labour Force Survey (1998)

Trades, Transport and Equipment Operators and Related Occupations

— Skill Type 7

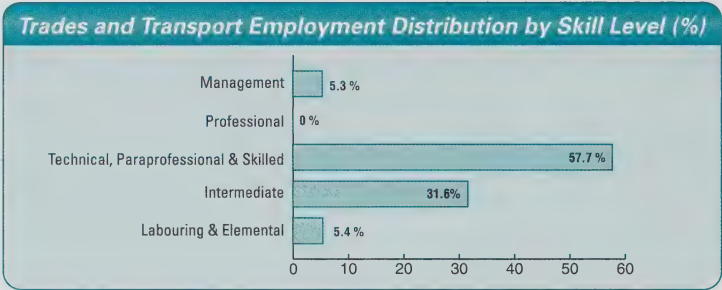
18% of new jobs created over the 1999-2004 period are expected to be in the trades and transport occupations...

The trades, transport and equipment operators skill type accounted for 16.2% (2,163,214 people) of total 1998 non-student employment.

Graph 5.1.23 highlights the fact that these occupations are concentrated (58%) in occupations requiring a community college or trade/vocational certificate. Graph 5.1.24 indicates that the largest occupation in this grouping is motor vehicle and transit drivers, accounting for 18% of employment in trades and transportation.

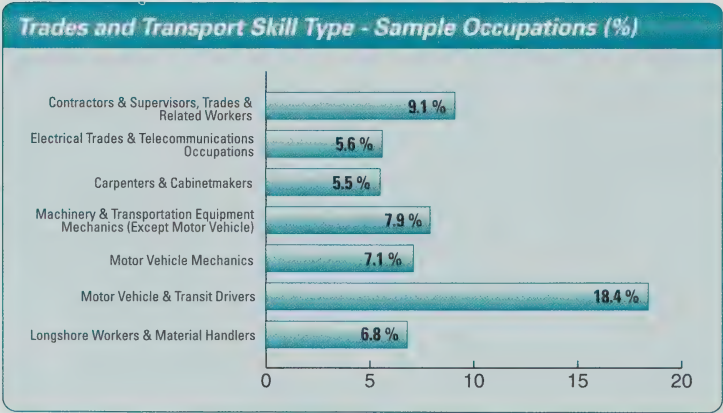
Currently labour market conditions in trades and transportation are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings in these occupations are about the same as those of the economy-wide averages. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair*, although the number of new job openings is expected to slightly exceed the number of new job seekers.

Graph 5.1.23



Source: Statistics Canada, Labour Force Survey (1998)

Graph 5.1.24



Source: Statistics Canada, Labour Force Survey (1998)

Occupations Unique to Primary Industry — Skill Type 8

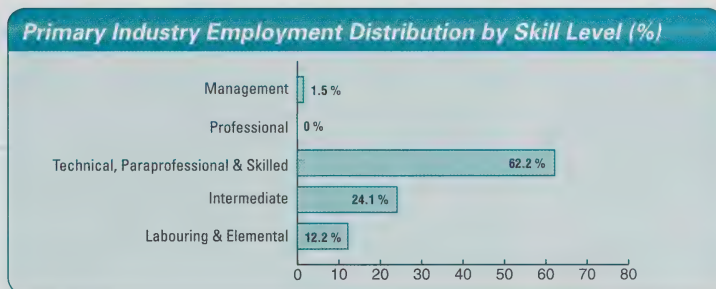
2% of new jobs created over the 1999-2004 period are expected to be in primary industry occupations....

The primary industry skill type accounted for 4.2% (560,577 people) of total 1998 non-student employment.

Graph 5.1.25 highlights the fact that these occupations are concentrated (62%) in occupations requiring a community college or trade/vocational certificate. Graph 5.1.26 indicates that the largest occupation in this grouping is contractors and supervisors in agriculture, horticulture and aquaculture, accounting for 49% of employment in primary industry.

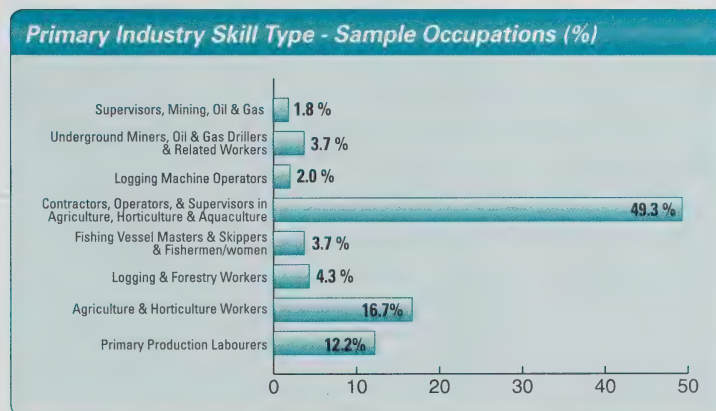
Currently labour market conditions in primary industries are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings in these occupations are about the same as those of the economy-wide averages. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair*, although the number of new job seekers is expected to slightly exceed the number of new job openings.

Graph 5.1.25



Source: Statistics Canada, Labour Force Survey (1998)

Graph 5.1.26



Source: Statistics Canada, Labour Force Survey (1998)

Occupations Unique to Processing, Manufacturing and Utilities

— Skill Type 9

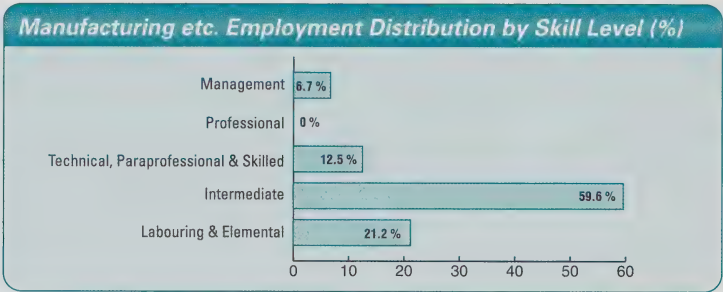
7% of new jobs created over the 1999-2004 period are expected to be in the processing, manufacturing and utilities occupations...

The processing, manufacturing and utilities skill type accounted for 8.7% (1,164,230 people) of total 1998 non-student employment.

Graph 5.1.27 highlights the fact that these occupations are concentrated (60%) in occupations requiring high school graduation. Graph 5.1.28 indicates that the largest occupation in this grouping is labourers in processing, manufacturing and utilities, accounting for 21% of employment in processing, manufacturing and utilities.

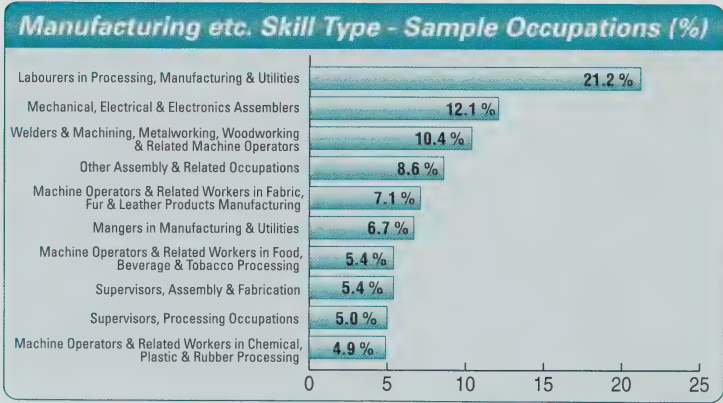
Currently labour market conditions in processing, manufacturing and utilities are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings in these occupations are about the same as those of the economy-wide averages. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair*, although the number of new job seekers is expected to slightly exceed the number of new job openings.

Graph 5.1.27



Source: Statistics Canada, Labour Force Survey (1998)

Graph 5.1.28



Source: Statistics Canada, Labour Force Survey (1998)

5.2 Overview of Outlooks by Field of Study

One of the key determinants of labour market conditions for new graduates is the labour market conditions of the occupations in which they are expected to look for work. For example, the labour market conditions for nursing graduates are primarily determined by the labour market conditions for the nursing occupation. However, labour market conditions are not the only determinants of whether or not an individual will have success in finding employment. An individual's talents, skills, experience and interests also play a major role in a successful job search.

Table 5.2.1 presents data taken from various HRDC/Statistics Canada National Graduate Surveys. Data and research indicate that, generally, the probability of finding employment improves with progressively higher levels of education. For example, one can see in the table that the unemployment rate for trade/vocational graduates, two years after graduation, was roughly double the unemployment rate of undergraduate university graduates. Part of this difference is due to the labour market conditions in occupations in which graduates are expected to look for or find work. However, other factors related to firms' and workers' behaviour in the labour market, such as credentialism or job search techniques, also play a role in determining labour market outcomes.

Table 5.2.2 presents a summary of the average ratings for 1998 and 2004 of labour market conditions for post-secondary graduates, aggregated by four levels of study and nine broad fields of study.

Table 5.2.1 — *Labour Market Outcomes of Recent Graduates*

Level of Study	Year of Graduation	Unemployment Rates		Full-Time, Full-Year Earnings	
		2 Years After Graduation	5 Years After Graduation	2 Years After Graduation	5 Years After Graduation
Trade/ Vocational	1982	25%	17%	\$16,000	\$21,900
	1986	17%	19%	\$19,900	\$27,700
	1990	20%	14%	\$24,200	\$29,400
	1995	15%	N/A	\$25,900	N/A
Community College	1982	10%	4%	\$18,700	\$25,200
	1986	13%	7%	\$20,700	\$30,200
	1990	10%	6%	\$26,700	\$31,900
	1995	10%	N/A	\$27,500	N/A
Undergraduate University	1982	10%	5%	\$23,800	\$32,800
	1986	10%	7%	\$26,800	\$39,200
	1990	10%	6%	\$32,200	\$40,200
	1995	9%	N/A	\$33,600	N/A
Master's	1982	8%	2%	\$33,400	\$42,100
	1986	7%	4%	\$36,800	\$50,100
	1990	11%	8%	\$43,400	\$53,300
	1995	8%	N/A	\$47,200	N/A
Doctorate	1982	7%	1%	\$38,000	\$43,200
	1986	5%	11%	\$38,000	\$50,800
	1990	6%	4%	\$46,600	\$55,000
	1995	9%	N/A	\$48,100	N/A

Source: Statistics Canada's National Graduate Surveys of 1984, 1988, 1992 and 1997.

Table 5.2.2 — *Labour Market Conditions for Recent Post-Secondary Graduates – Current and 2004*

Broad Fields of Study		Education Levels					
		Plaster's	Undergraduate	Community College	Trade/Vocational	All	
	Current - 2004	Current - 2004	Current - 2004	Current - 2004	Current - 2004	Current - 2004	
Arts	--	fair-fair	fair-fair	fair-fair	fair-fair	fair-fair	
Business, Commerce, Management & Administration	good-good	good-good	fair-fair	limited-limited	good-good		
Education	fair-fair	fair-fair	fair-limited	--	fair-fair		
Engineering & Engineering Technologies	good-good	good-good	fair-fair	fair-fair	fair-fair		
Humanities	fair-fair	fair-fair	fair-fair	--	fair-fair		
Medicine and Health	good-good	good-good	good-good	fair-fair	good-good		
Natural Sciences and Primary Technologies	fair-fair	fair-fair	limited-limited	limited-limited	fair-fair		
Physical Sciences	good-good	good-good	good-good	good-good	good-good		
Social Sciences and Services	fair-fair	fair-fair	fair-fair	limited-limited	fair-fair		
All	good-good	fair-fair	fair-fair	fair-fair	fair-fair		

Source: "Canadian Occupational Projection System (COPS), 1999 Reference Scenario", T-99-1E, Applied Research Branch, HRDC.

See definitions of "Good", "Fair" and "Limited" in the "Glossary of Terms".

5.2.1 — Overview by Level of Study

This section provides information on labour market conditions for recent post-secondary graduates from the perspective of the aggregate level of study. There are four education levels: trade/vocational; community college; undergraduate university; and master's university.

Each of the four sub-sections below provides an overview of the current and future outlooks for finding work for recent graduates at that education level, and two summary graphs: the first indicates the distribution of recent post-secondary graduates in that education level across the nine broad fields of study, and the second provides an indication of the largest major fields of study and their share of recent graduates within the broad field of study.

By their nature, aggregate outlooks represent an average of the factors used to determine the detailed outlooks for the underlying fields of study. For further detail or to get an idea of which major fields of study within an education level have outlooks that differ from the overall ratings, refer to the individual profiles in *Part 2: Outlooks by Field of Study*, or to the *Job Futures 2000* web site: www.hrdc-drhc.gc.ca/JobFutures. The 'Overview by Level of Study' section on the website also contains tables providing additional explanations of why an outlook may differ from the overall rating.

Trade/Vocational

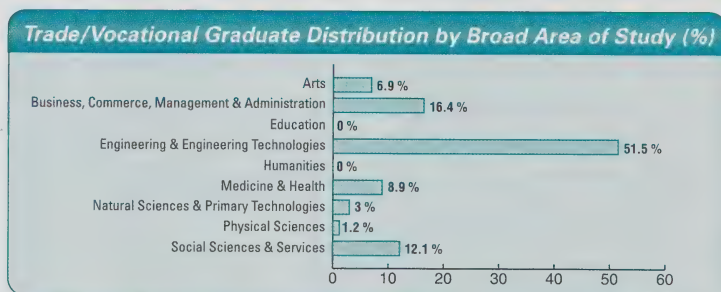
"Fair" labour market conditions are expected over the 1999-2004 period for trade/vocational graduates....

13% of recent post-secondary school leavers had a trade/vocational diploma or certificate.

Graph 5.2.1 highlights the fact that trade/vocational graduates were concentrated (52%) in the engineering technology broad field of study. Graph 5.2.2 indicates that the largest major fields of study at the trade/vocational level were construction technologies and electrical/electronic engineering technologies (8% each).

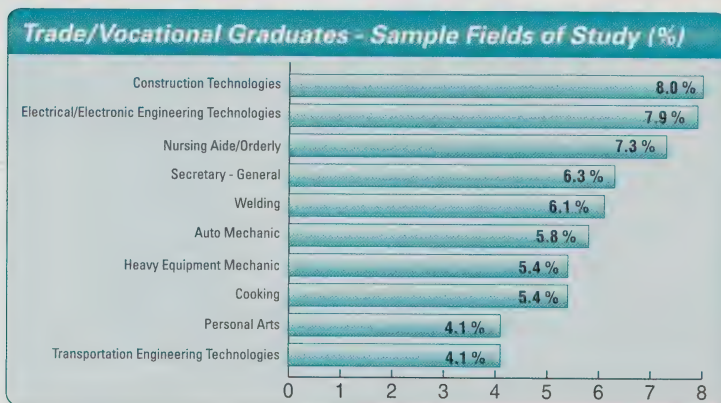
Currently labour market conditions for trade/vocational graduates are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings for these recent graduates are about the same as the economy-wide averages. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair* although the number of new job openings available to these graduates is expected to fall slightly short of the number of new job seekers.

Graph 5.2.1



Source: Statistics Canada, Educational Administrative Data (1997).

Graph 5.2.2



Source: Statistics Canada, Educational Administrative Data (1997).

Community College/Cégep

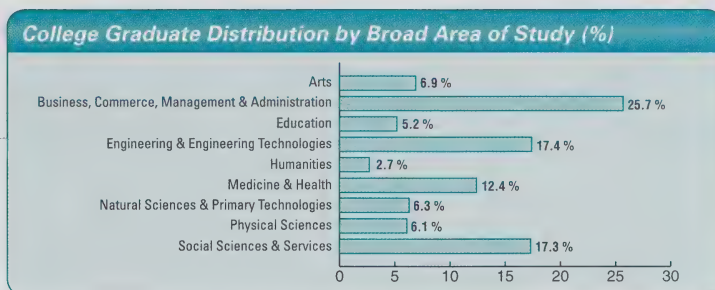
'Fair' labour market conditions are expected over the 1999-2004 period for community college/cégep graduates...

30% of recent post-secondary school leavers had a community college diploma or certificate.

Graph 5.2.3 highlights the fact that the largest share of community college graduates was concentrated (26%) in the business broad field of study. Graph 5.2.4 indicates that the largest major field of study at the community college level was business and administration (9%).

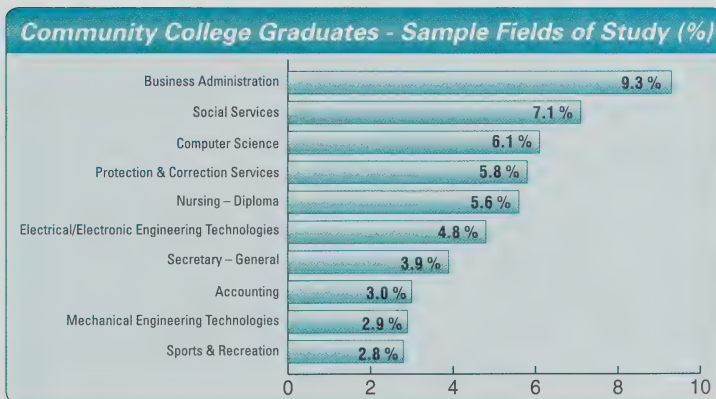
Currently labour market conditions for community college graduates are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings for these recent graduates are about the same as the economy-wide averages. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair* as the number of new job openings available to these graduates is expected to match the number of new job seekers.

Graph 5.2.3



Source: Statistics Canada, Educational Administrative Data (1997).

Graph 5.2.4



Source: Statistics Canada, Educational Administrative Data (1997).

University, Undergraduate

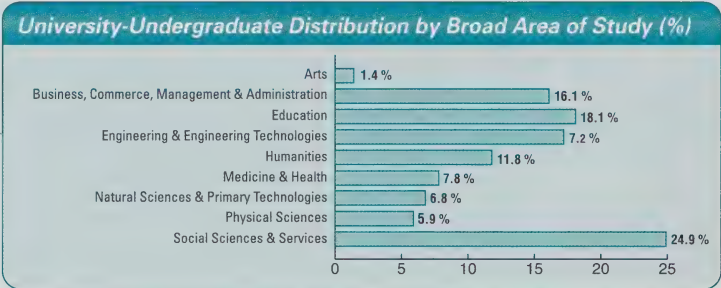
“Fair” labour market conditions are expected over the 1999-2004 period for undergraduate university graduates....

50% of recent post-secondary school leavers had an undergraduate university degree or diploma.

Graph 5.2.5 highlights the fact that the largest share of university undergraduates was concentrated (25%) in the social sciences and services broad field of study. Graph 5.2.6 indicates that the largest major field of study at the university undergraduate level was business and administration (15%).

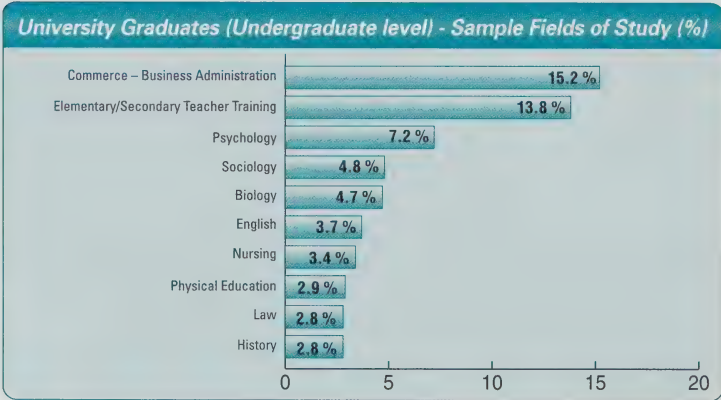
Currently labour market conditions for university undergraduates are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings for these recent graduates are about the same as the economy-wide averages. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair* although the number of new job openings available to these graduates is expected to slightly exceed the number of new job seekers.

Graph 5.2.5



Source: Statistics Canada, Educational Administrative Data (1997).

Graph 5.2.6



Source: Statistics Canada, Educational Administrative Data (1997).

University, Master's

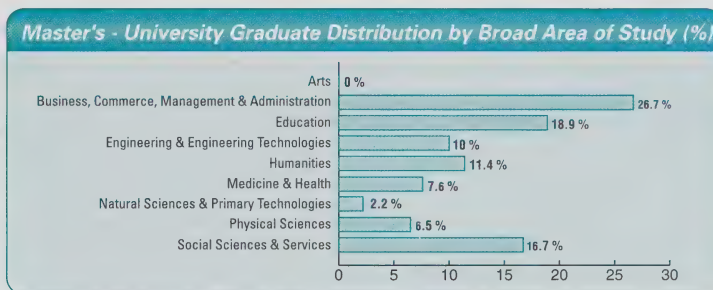
'Good' labour market conditions are expected over the 1999-2004 period for master's graduates...

8% of recent post-secondary school leavers had a master's degree.

Graph 5.2.7 highlights the fact that the largest share of master's graduates was concentrated (27%) in the business broad field of study. Graph 5.2.8 indicates that the largest major field of study at the master's level was business and administration (23%).

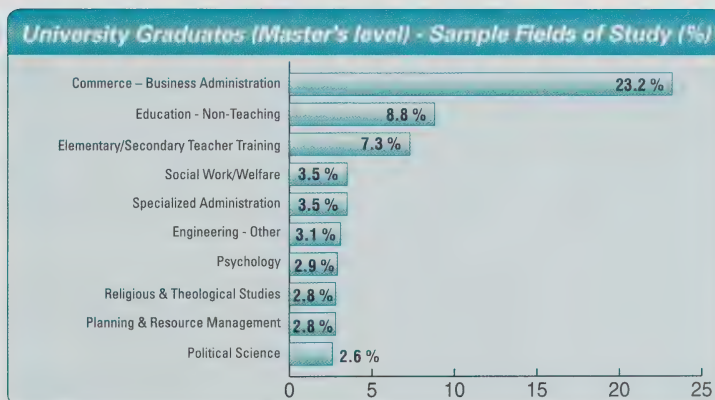
Currently labour market conditions for master's graduates are rated as *good*. This rating follows from the fact that the unemployment rate for recent master's graduates was 20% less than the average for all recent post-secondary graduates and earnings were 50% more than the average. Over the 1999 to 2004 projection period labour market conditions are expected to remain *good* although the number of new job openings available to these graduates is expected to exceed the number of new job seekers.

Graph 5.2.7



Source: Statistics Canada, Educational Administrative Data (1997).

Graph 5.2.8



Source: Statistics Canada, Educational Administrative Data (1997).

5.2.2 — Overview by Broad Field of Study

This section provides information on labour market conditions for recent post-secondary graduates from the perspective of the aggregate broad fields of study. There are nine broad fields of study: arts; business, commerce, management and administration; education; engineering and engineering technologies; humanities; natural sciences and primary technologies; medicine and health; physical sciences; and social sciences and services.

Each of the nine sub-sections below provides an overview of the current and future outlooks for finding work for recent graduates from that broad field of study, and two summary graphs: the first indicates the distribution of recent post-secondary graduates in that broad field of study across the four education levels, and the second provides an indication of the largest major fields of study by education level and their share of recent graduates within the broad field of study.

By their nature, aggregate outlooks represent an average of the factors used to determine the detailed outlooks for the underlying fields of study. For further field of study detail or to get an idea of which major fields of study within an education level have outlooks that differ from the overall ratings, refer to the individual profiles in *Part 2: Outlooks by Field of Study*, or to the *Job Futures 2000* web site: www.hrdc-drhc.gc.ca/JobFutures. The 'Overview by Broad Field of Study' section on the website also contains tables providing additional explanations of why an outlook may differ from the overall rating.

Arts

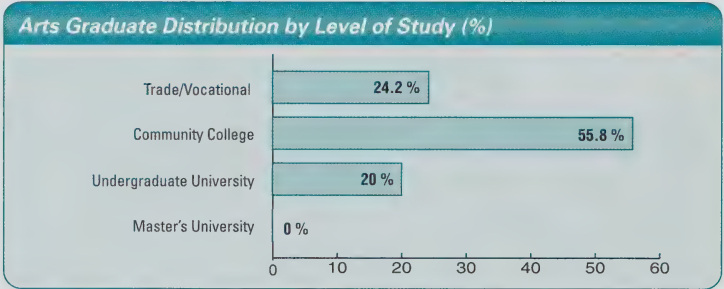
“Fair” labour market conditions are expected over the 1999-2004 period for arts graduates....

4% of recent post-secondary school leavers had a qualification in arts.

Graph 5.2.9 highlights the fact that over half (56%) of arts graduates received a community college diploma or certificate. Graph 5.2.10 indicates that the largest major field of study in arts was community college graphic and audio-visual arts (18%).

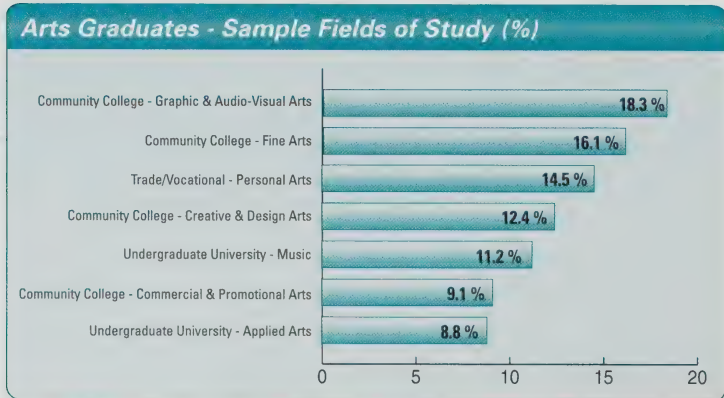
Currently labour market conditions for arts graduates are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings for these recent graduates are about the same as the rates for all recent post-secondary graduates. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair* as the number of new job openings available to these graduates is expected to almost equal the number of new job seekers.

Graph 5.2.9



Source: Statistics Canada, Educational Administrative Data (1997).

Graph 5.2.10



Source: Statistics Canada, Educational Administrative Data (1997).

Business, Commerce, Management and Administration

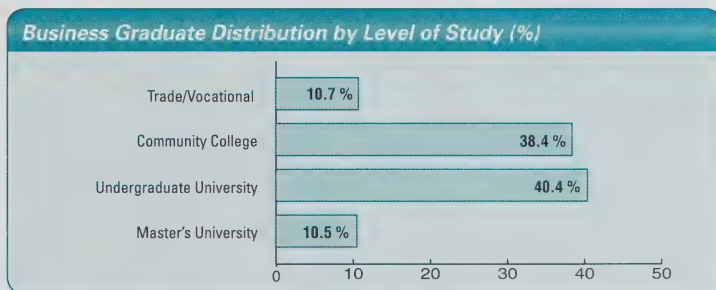
“Good” labour market conditions over the 1999-2004 period are expected for business graduates....

20% of recent post-secondary school leavers had a qualification in business.

Graph 5.2.11 highlights the fact that a large share (40%) of business graduates received an undergraduate university degree. Graph 5.2.12 indicates that the largest major field of study in business was undergraduate university business and commerce (38%).

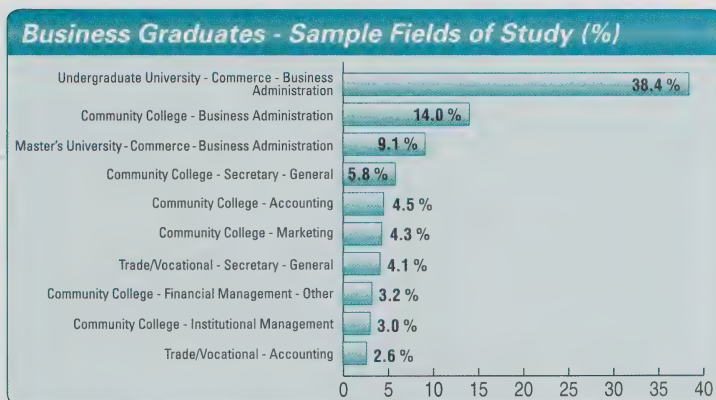
Currently labour market conditions for business graduates are rated as *good*. This rating follows from the fact that the unemployment rate and earnings for these recent graduates are better than the average rates for all recent post-secondary graduates. Current labour market conditions for business graduates are rated as *limited* at the trade/vocational level of study, *fair* at the community college level and *good* at the university level. Over the 1999 to 2004 projection period labour market conditions are expected to remain *good* as the number of new job openings available to these graduates is expected to exceed the number of new job seekers.

Graph 5.2.11



Source: Statistics Canada, Educational Administrative Data (1997).

Graph 5.2.12



Source: Statistics Canada, Educational Administrative Data (1997).

Education

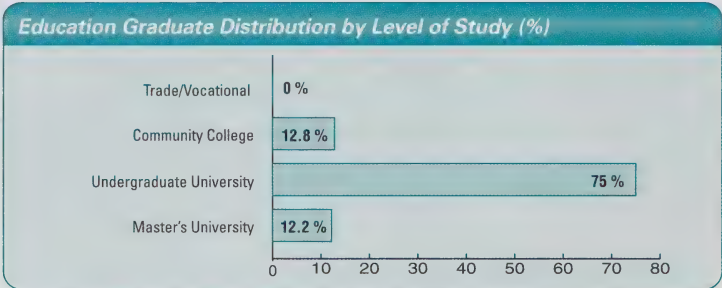
“Fair” labour market conditions over the 1999-2004 period are expected for education graduates....

12% of recent post-secondary school leavers had a qualification in education.

Graph 5.2.13 highlights the fact that most (75%) education graduates received an undergraduate university degree. Graph 5.2.14 indicates that the largest major field of study in education was undergraduate university elementary/secondary teacher training (57%).

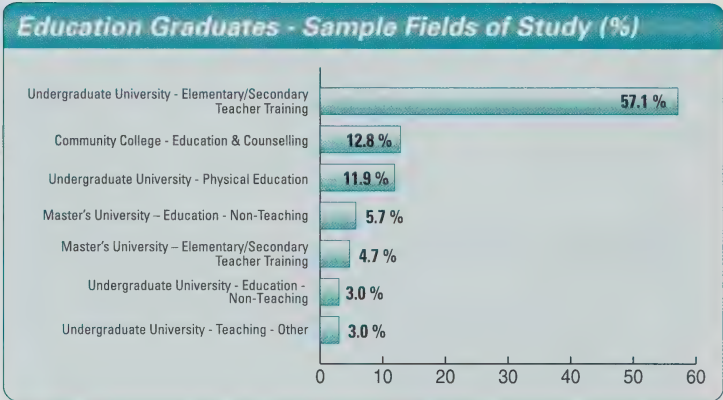
Currently labour market conditions for education graduates are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings for these recent graduates were about the same as the average rates for all recent post-secondary graduates. Current labour market conditions are rated as *fair* for all education major fields of study, regardless of level. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair* although the number of new job openings available to these graduates is expected to slightly exceed the number of new job seekers, especially at the master’s level of study.

Graph 5.2.13



Source: Statistics Canada, Educational Administrative Data (1997).

Graph 5.2.14



Source: Statistics Canada, Educational Administrative Data (1997).

Engineering and Engineering Technologies

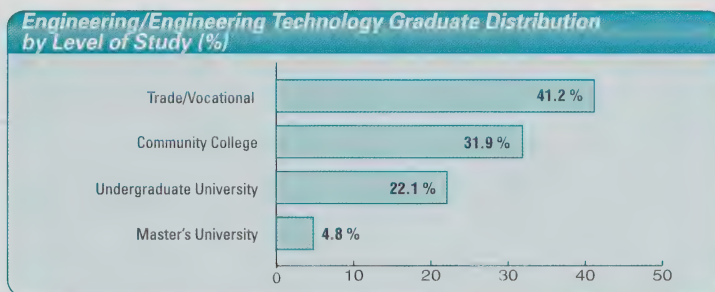
'Fair' labour market conditions are expected over the 1999-2004 period for engineering/engineering technology graduates....

16% of recent post-secondary school leavers had a qualification in engineering (technologies).

Graph 5.2.15 highlights the fact that a large share (41%) of engineering (technology) graduates received a trade/vocational certificate or diploma. Graph 5.2.16 indicates that the largest major field of study in engineering (technology) was community college electrical/electronic engineering technologies (9%).

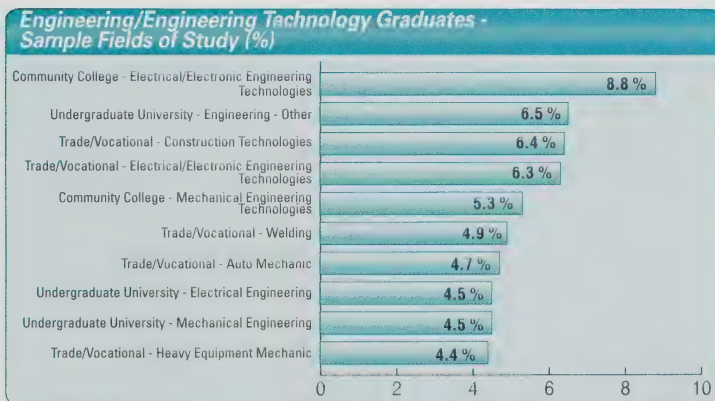
Currently labour market conditions for engineering (technology) graduates are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings for these recent graduates were about the same as the average rates for all recent post-secondary graduates. Current labour market conditions are rated as *good* for university graduates and *fair* for community college and trade/vocational graduates. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair* although the number of new job openings available to these graduates is expected to slightly exceed the number of new job seekers.

Graph 5.2.15



Source: Statistics Canada, Educational Administrative Data (1997).

Graph 5.2.16



Source: Statistics Canada, Educational Administrative Data (1997).

Humanities

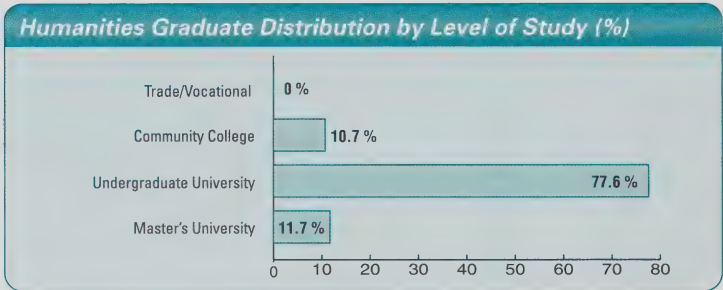
“Fair” labour market conditions are expected over the 1999-2004 period for humanities graduates...

8% of recent post-secondary school leavers had a qualification in humanities.

Graph 5.2.17 highlights the fact that most (78%) humanities graduates received an undergraduate university degree. Graph 5.2.18 indicates that the largest major field of study in humanities was undergraduate university English graduates (24%).

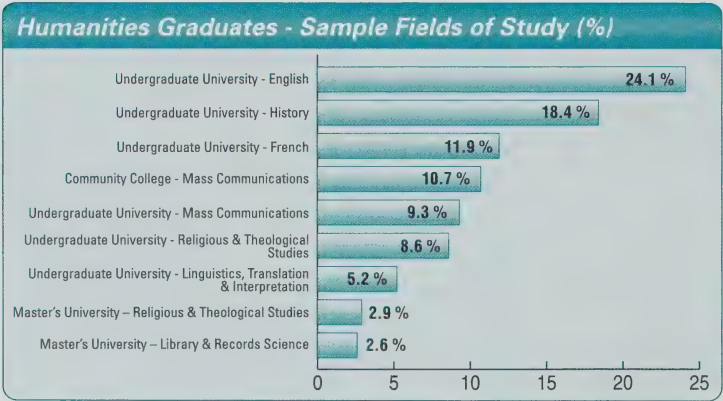
Currently labour market conditions for humanities graduates are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings for these recent graduates were about the same as the average rates for all recent post-secondary graduates. Current labour market conditions are rated as *fair* across all the educational levels. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair* although the number of new job openings available to these graduates is expected to slightly exceed the number of new job seekers.

Graph 5.2.17



Source: Statistics Canada, Educational Administrative Data (1997).

Graph 5.2.18



Source: Statistics Canada, Educational Administrative Data (1997).

Medicine and Health

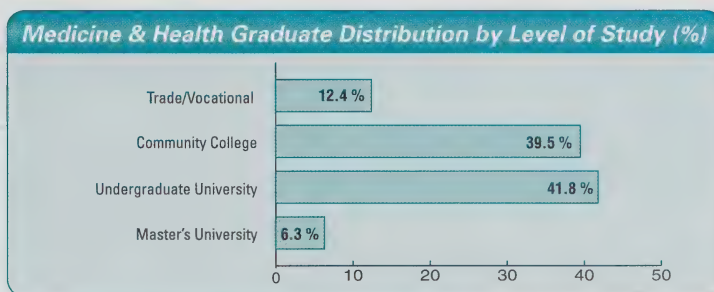
“Good” labour market conditions are expected over the 1999-2004 period for medicine and health graduates....

9% of recent post-secondary school leavers had a qualification in medicine and health.

Graph 5.2.19 highlights the fact that a large share (42%) of medicine and health graduates received an undergraduate university degree. Graph 5.2.20 indicates that the largest major field of study in medicine and health was undergraduate university nursing (18%).

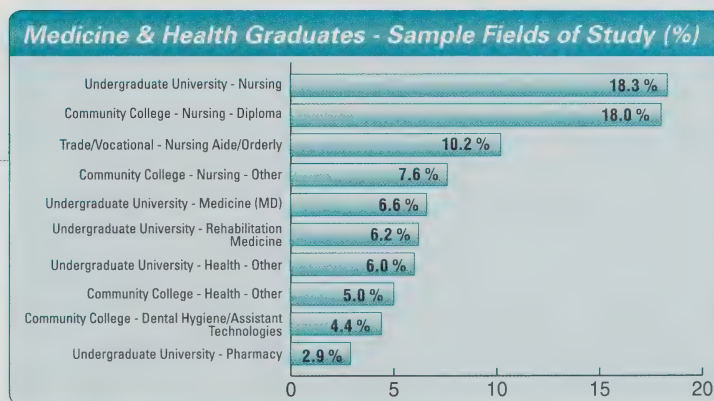
Currently labour market conditions for medicine and health graduates are rated as *good*. This rating follows from the fact that the unemployment rate and earnings for these recent graduates were more favourable than the average rates for all recent post-secondary graduates. Over the 1999 to 2004 projection period labour market conditions are expected to remain *good* as the number of new job openings available to these graduates is expected to exceed the number of new job seekers.

Graph 5.2.19



Source: Statistics Canada, Educational Administrative Data (1997).

Graph 5.2.20



Source: Statistics Canada, Educational Administrative Data (1997).

Natural Sciences and Primary Technologies

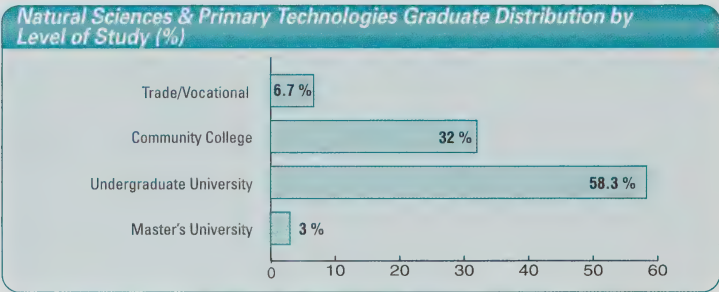
“Fair” labour market conditions are expected over the 1999-2004 period for natural sciences and primary technology graduates...

6% of recent post-secondary school leavers had a qualification in natural sciences and primary technologies.

Graph 5.2.21 highlights the fact that a large share (58%) of natural sciences and primary technology graduates received an undergraduate university degree. Graph 5.2.22 indicates that the largest major field of study in natural sciences and primary technologies was undergraduate university biology (40%).

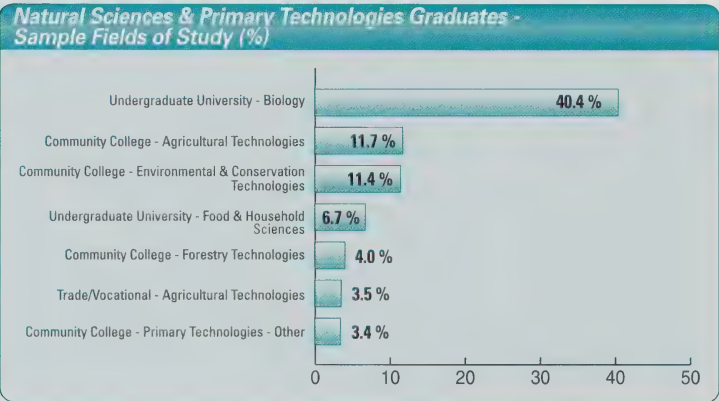
Currently labour market conditions for natural sciences and primary technology graduates are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings for these recent graduates were about the same as the average rates for all recent post-secondary graduates. Current labour market conditions are rated as *fair* for university graduates and *limited* for community college and trade/vocational graduates. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair* although the number of new job seekers is expected to slightly exceed the number of new job openings available to these graduates.

Graph 5.2.21



Source: Statistics Canada, Educational Administrative Data (1997).

Graph 5.2.22



Source: Statistics Canada, Educational Administrative Data (1997).

Physical Sciences

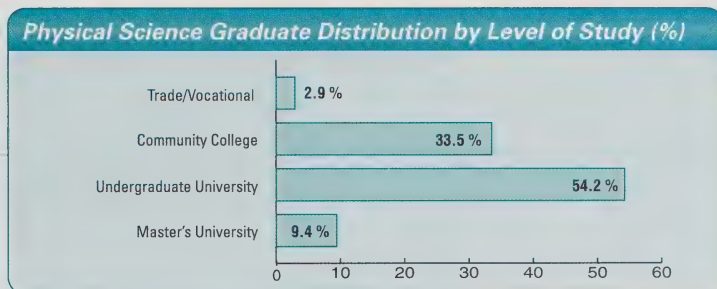
“Good” labour market conditions are expected over the 1999-2004 period for physical science graduates....

5% of recent post-secondary school leavers had a qualification in the physical sciences.

Graph 5.2.23 highlights the fact that a large share (54%) of physical science graduates received an undergraduate university degree. Graph 5.2.24 indicates that the largest major field of study in physical science was community college computer science (34%).

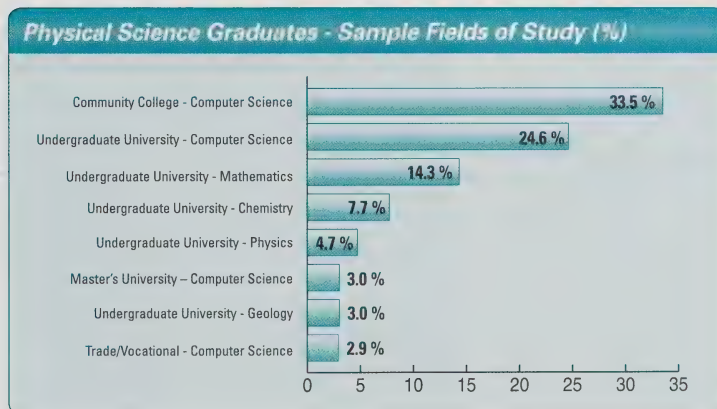
Currently labour market conditions for physical science graduates are rated as *good*. This rating follows from the fact that the unemployment rate and earnings for these recent graduates were more favourable than the average rates for all recent post-secondary graduates. Current labour market conditions are rated as *good* for university and community college graduates, primarily due to the outlook for computer science graduates, and *fair* for trade/vocational graduates. Over the 1999 to 2004 projection period labour market conditions are expected to remain *good* although the number of new job seekers is expected to slightly exceed the number of new job openings available to these graduates.

Graph 5.2.23



Source: Statistics Canada, Educational Administrative Data (1997).

Graph 5.2.24



Source: Statistics Canada, Educational Administrative Data (1997).

Social Sciences and Services

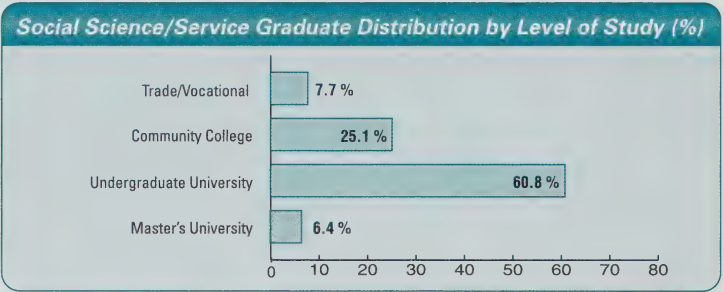
“Fair” labour market conditions are expected over the 1999-2004 period for social science and service graduates....

20% of recent post-secondary school leavers had a qualification in the social science and service area.

Graph 5.2.25 highlights the fact that most (61%) social science and service graduates received an undergraduate university degree. Graph 5.2.26 indicates that the largest major field of study in social science and services was undergraduate university psychology (18%).

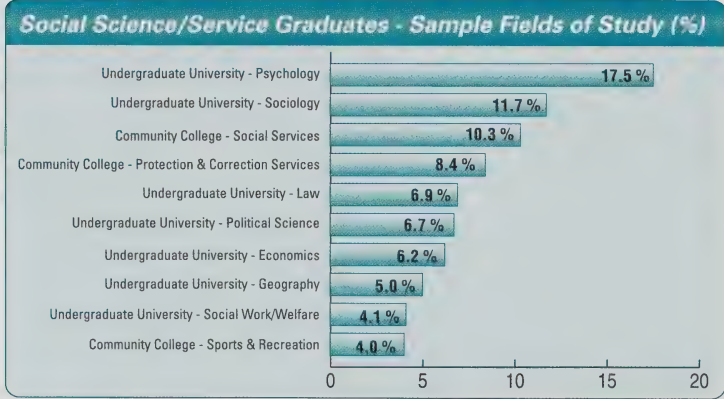
Currently labour market conditions for social science and service graduates are rated as *fair*. This rating follows from the fact that the unemployment rate and earnings for these recent graduates were about the same as the average rates for all recent post-secondary graduates. Current labour market conditions are rated as *fair* for university and community college graduates and *limited* for trade/vocational graduates. Over the 1999 to 2004 projection period labour market conditions are expected to remain *fair* although the number of new job seekers is expected to slightly exceed the number of new job openings available to these graduates.

Graph 5.2.25



Source: Statistics Canada, Educational Administrative Data (1997).

Graph 5.2.26



Source: Statistics Canada, Educational Administrative Data (1997).

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Appendix B

Table A.3.1 — *Detailed List of Starting and Lifetime Employment Earnings by Occupation and Skill Level*

NOC	Occupations	Starting Earnings (\$)	Lifetime Employment Earnings (\$)
Management Occupations			
011	Administrative services managers	34 000	2 309 400
012	Managers in financial & business services	28 800	2 411 700
013	Managers in communication (except broadcasting)	30 500	2 313 700
021	Managers in engineering, architecture & information systems	37 200	2 577 200
031	Managers in health, education, social & community services	32 300	2 052 200
041	Managers in public administration	36 600	2 171 600
051	Managers in art, culture, recreation & sport	21 800	1 842 700
061	Sales, marketing & advertising managers	31 600	2 315 000
062	Managers in retail trade	17 300	1 392 600
063	Managers in food service & accommodation	18 600	1 190 000
064	Managers in protective services	30 700	2 217 300
065	Managers in other services	19 800	1 411 400
071	Managers in construction & transportation	31 700	1 930 000
072	Facility operation & maintenance managers	21 500	1 861 700
081	Managers in primary production (except agriculture)	40 500	2 967 700
091	Managers in manufacturing & utilities	29 000	2 429 700
Occupations generally requiring a university diploma (Skill Level A)			
111	Auditors, accountants & investment professionals	32 600	2 181 400
112	Human resources & business service professionals	32 100	2 143 000
211	Physical science professionals	41 700	2 231 400
212	Life science professionals	36 400	1 945 700
213	Civil, mechanical, electrical & chemical engineers	41 000	2 228 700
214	Other engineers	40 900	2 271 300
215	Architects, urban planners & land surveyors	27 800	1 877 500
216	Mathematicians, systems analysts & computer programmers	36 500	1 973 700
311	Physicians, dentists & veterinarians	57 100	4 183 900
312	Optometrists, chiropractors & other health diagnosing & treating professionals	41 700	2 407 400
313	Pharmacists, dietitians & nutritionists	45 200	1 995 300
314	Therapy & assessment professionals	38 900	1 711 000
315	Nurse supervisors & registered nurses	35 300	1 566 900
411	Judges, lawyers & Quebec notaries	37 600	3 263 200
412	University professors & assistants	34 400	2 282 500
413	College & other vocational instructors	30 800	1 830 400
414	Secondary & elementary school teachers & counsellors	34 200	1 755 600
415	Psychologists, social workers, counsellors, clergy & probation officers	30 700	1 434 900
416	Policy & program officers, researchers & consultants	34 000	1 936 500
511	Librarians, archivists, conservators & curators	27 200	1 485 500
512	Writing, translating & public relations professionals	29 500	1 750 500
513	Creative & performing artists	15 600	1 361 200

NOC	Occupations	Starting Earnings (\$)	Lifetime Employment Earnings(\$)
Occupations generally requiring a college diploma (Skill Level B)			
121	Clerical supervisors	21 300	1 616 900
122	Administrative & regulatory occupations	24 900	1 589 200
123	Finance & insurance administrative occupations	21 300	1 368 700
124	Secretaries, recorders & transcriptionists	20 500	1 137 600
221	Technical occupations in physical sciences	31 200	1 810 800
222	Technical occupations in life sciences	27 800	1 551 000
223	Technical occupations in civil, mechanical & industrial engineering	31 400	1 904 000
224	Technical occupations in electronics & electrical engineering	28 900	1 654 000
225	Technical occupations in architecture, drafting, surveying & mapping	27 800	1 606 800
226	Other technical inspectors & regulatory officers	32 100	1 822 100
227	Transportation officers & controllers	34 100	2 548 700
321	Medical technologists & technicians (except dental health)	29 200	1 604 900
322	Technical occupations in dental health care	37 100	1 501 000
323	Other technical occupations in health care (except dental)	27 300	1 256 600
421	Paralegals, social services workers & occupations in education & religion n.e.c.	23 900	1 344 700
521	Technical occupations in libraries, archives, museums & galleries	21 200	1 259 300
522	Photographers, graphic arts technicians	20 900	1 409 200
523	Announcers & other performers	21 100	1 800 100
524	Creative designers & craftspersons	22 000	1 186 000
525	Athletes, coaches, referees & related occupations	21 100	1 368 900
621	Sales & service supervisors	16 600	1 288 700
622	Technical sales specialists, wholesale trade	25 900	2 038 400
623	Insurance & real estate sales occupations & buyers	24 600	1 626 700
624	Chefs & cooks	13 400	916 400
625	Butchers & bakers	16 200	1 067 300
626	Police officers & fire-fighters	40 000	2 089 700
627	Technical occupations in personal service	16 900	804 400
721	Contractors & supervisors, trades & related workers	28 200	1 805 500
722	Supervisors, railway & motor transportation occupations	23 300	1 784 700
723	Machinists & related occupations	28 800	1 661 000
724	Electrical trades & telecommunications occupations	33 700	1 822 000
725	Plumbers, pipefitters & gas fitters	32 700	1 596 000
726	Metal forming, shaping & erecting occupations	28 900	1 616 700
727	Carpenters & cabinetmakers	20 100	1 244 800
728	Masonry & plastering trades	16 900	1 387 700
729	Other construction trades	17 900	1 301 600
731	Machinery & transportation equipment mechanics (except motor vehicle)	32 100	1 774 600
732	Motor vehicle mechanics	23 900	1 309 900
733	Other mechanics	22 300	1 308 700
734	Upholsterers, tailors, shoe repairers, jewellers & related occupations	16 300	899 300
735	Stationary engineers & power station & system operators	46 600	1 892 800
736	Train crew operating occupations	29 800	2 791 000
737	Crane operators, drillers & blasters	29 900	1 859 200
738	Printing press operators, commercial divers & other trades	21 700	1 556 600
821	Supervisors, logging & forestry	24 700	2 107 800
822	Supervisors, mining, oil & gas	29 000	2 562 300
823	Underground miners, oil & gas drillers & related workers	35 700	2 330 900
824	Logging machinery operators	40 700	1 783 500
825	Contractors, operators & supervisors in agriculture, horticulture & aquaculture	15 500	956 300
826	Fishing vessel masters & skippers & fishermen/women	24 300	1 408 700
921	Supervisors, processing occupations	21 200	1 991 400
922	Supervisors, assembly & fabrication	22 500	1 789 100
923	Central control & process operators in manufacturing & processing	25 500	2 157 900

NOC	Occupations	Starting Earnings (\$)	Lifetime Employment Earnings (\$)
Occupations generally requiring a high school diploma (Skill Level C)			
141	Clerical occupations, general office skills.....	18 200.....	1 141 100
142	Office equipment operators.....	20 000.....	1 265 000
143	Finance & insurance clerks.....	20 300.....	1 219 100
144	Administrative support clerks.....	24 400.....	1 339 500
145	Library, correspondence & related information clerks.....	20 500.....	1 269 500
146	Mail & message distribution occupations.....	18 300.....	1 323 800
147	Recording, scheduling & distributing occupations.....	18 300.....	1 350 900
341	Assisting occupations in support of health services.....	21 300.....	1 020 300
641	Sales representatives, wholesale trade.....	23 000.....	1 742 000
642	Retail salespersons & sales clerks.....	15 700.....	1 151 200
643	Occupations in travel & accommodation.....	19 800.....	1 191 000
644	Tour & recreational guides & amusement occupations.....	24 900.....	1 062 000
645	Occupations in food & beverage service.....	12 800.....	728 000
646	Other occupations in protective service.....	21 700.....	1 584 000
647	Childcare & home support workers.....	14 400.....	757 000
648	Other occupations in personal service.....	16 400.....	812 000
741	Motor vehicle & transit drivers.....	18 400.....	1 410 500
742	Heavy equipment operators.....	25 400.....	1 644 800
743	Other transport equipment operators & related workers.....	19 300.....	1 600 000
744	Other installers, repairers & servicers.....	16 600.....	1 323 900
745	Longshore workers & material handlers.....	17 900.....	1 465 500
841	Mine service workers & operators in oil & gas drilling.....	38 800.....	2 032 100
842	Logging & forestry workers.....	27 200.....	1 490 400
843	Agriculture & horticulture workers.....	11 600.....	858 700
844	Other fishing & trapping occupations.....	24 100.....	591 000
941	Machine operators & related workers in metal & mineral products processing.....	23 800.....	1 662 000
942	Machine operators & related workers in chemical, plastic & rubber processing.....	17 500.....	1 453 600
943	Machine operators in pulp & paper production.....	20 300.....	1 702 000
944	Machine operators & related workers in textile processing.....	18 000.....	1 087 400
945	Machine operators in fabric, fur & leather products manufacturing.....	16 200.....	842 100
946	Machine operators & related workers in food, beverage & tobacco processing.....	17 700.....	1 372 600
947	Printing machine operators & related occupations.....	16 900.....	1 322 500
948	Mechanical, electrical & electronics assemblers.....	22 100.....	1 556 500
949	Other assembly & related occupations.....	15 700.....	1 210 000
951	Machining, metalworking, woodworking & related machine operators.....	22 700.....	1 470 500
Occupations not generally requiring a high school diploma (Skill Level D)			
661	Cashiers.....	11 800.....	837 000
662	Other sales & related occupations.....	13 100.....	1 051 000
663	Elemental medical & hospital assistants.....	25 400.....	1 108 000
664	Food counter attendants & kitchen helpers.....	10 600.....	819 700
665	Security guards & related occupations.....	19 500.....	1 116 000
666	Cleaners.....	14 700.....	1 072 000
667	Other attendants in travel, accommodation & recreation.....	15 400.....	1 128 000
668	Other elemental service occupations.....	13 300.....	900 000
761	Trades helpers & labourers.....	15 900.....	1 387 700
762	Public works & other labourers n.e.c.....	19 400.....	1 386 800
861	Primary production labourers.....	22 500.....	1 383 700
961	Labourers in processing, manufacturing & utilities.....	18 000.....	1 325 300

Table A.3.3¹ — **Detailed List of Distribution of Rates of Return to Education by Field of Study**
University Level (Undergraduate)

Field of Study	Median (%)	Minimum/Maximum (%)
Education		
Physical Education, Recreation & Tourism	8.1	1.7 to 17.6
Teaching	9.3	1.2 to 18.3
Educational Support	12.0	3.6 to 23.0
Counselling & Personal Development	12.8	2.2 to 26.8
Arts & Humanities		
Religious Studies	1.5	-21.3 to 12.8
Fine Arts	6.3	-3.4 to 14.9
Music	6.2	-1.4 to 15.6
Audio-Visual Arts	8.4	1.1 to 16.7
History	9	1.6 to 19.9
Journalism	9.5	2.7 to 19.8
English	9.1	1.4 to 18.1
Literature	10.8	3.4 to 20.7
Administration & Social Sciences		
Anthropology	6.7	-2.1 to 16.9
Sociology	8.3	1.0 to 18.4
Psychology	8.4	1.8 to 16.8
Geography	9.7	2.1 to 20.3
Political Science	10.5	3.8 to 19.1
Ethnic Studies	11.8	3.1 to 21.6
Environment & Regional Planning	12.4	5.2 to 24.0
Business & Commerce	13.1	5.8 to 24.4
Economics	13.3	5.5 to 24.3
Law	15.9	9.3 to 26.2
Chemistry, Physical & Natural Sciences		
Agriculture	6.9	-1.8 to 15.4
Biology & Biochemistry	7.7	0.2 to 16.9
Geology	9.2	2.7 to 17.6
Nutrition, Consumer & Domestic Science	10.8	3.3 to 20.9
Chemistry	11.3	3.8 to 21.6
Physics	11.5	3.6 to 21.7
Actuarial Sciences	12.0	4.9 to 21.8
Architecture & Engineering		
Architecture	9.7	2.8 to 19.2
Forestry	9.6	3.0 to 18.4
Engineering Physics	13.3	6.0 to 23.7
Industrial Engineering	13.7	6.1 to 23.8
Civil Engineering	15.4	8.1 to 24.3
Mechanical Engineering	16.2	8.8 to 25.4
Biological & Resource Engineering	16.4	8.5 to 25.8
Electronic Engineering	17.4	9.7 to 28.2
Health		
Rehabilitation Medicine	9.9	1.5 to 18.1
Nursing	12.6	2.6 to 25.4
Pharmacy	12.6	3.9 to 24.5
Dentistry	21.4	12.1 to 33.2
Medicine (GP)	22.8	14.6 to 33.7

Table A.3.4¹ — **Detailed List of Distribution of Rates of Return to Education by Field of Study**
College Level

Field of Study	Median (%)	Minimum/Maximum (%)
Education		
Counselling & Personal Development	2.0	-23 to 18
Physical Education	8.0	-8.2 to 27.9
Teaching	9.4	-5.6 to 31.3
Arts & Humanities		
Performing Arts	5.1	-25.3 to 23.7
Commercial Arts	7.9	-8.9 to 27.1
Library Sciences & Museum Technology	8.5	-6.9 to 27.6
Audio-Visual Arts	9.3	-7.4 to 29.2
Journalism	16.1	1.8 to 37.1
Administration & Social Sciences		
Business & Commerce	11.8	-3.0 to 32.2
Social Services	16.3	-1.7 to 43.8
Agriculture & Domestic Science		
Agriculture	3.6	-17.9 to 23.4
Animal Husbandry	5.6	-14.6 to 24.0
Nutrition, Consumer & Domestic Science	6.2	-18.4 to 25.2
Architecture, Mathematics & Engineering		
Building Technology	6.1	-11.1 to 26.1
Industrial Engineering Technologies	12.1	-4.3 to 31.9
Architectural Technology	16.9	2.3 to 37.2
Actuarial Science	16.8	0.4 to 39.6
Civil Engineering Technologies	17.8	-1.0 to 37.7
Biological Resource Engineering	17.9	0.8 to 37.7
Chemical Technology	18.2	2.3 to 38.1
Electrical & Mechanical Engineering Technologies	19.5	1.0 to 48.1
Data Processing	21.0	4.1 to 43.1
Primary Resource Engineering Technologies	22.3	5.9 to 47.5
Health		
Nursing	8.8	-5.7 to 29.5
Medical Laboratory Technology	16.2	-0.08 to 38.7
Public Health, Epidemiology & Biostatistics	16.8	-0.3 to 47.8

Source: John Appleby et al., 'Distribution of Rates of Return by Field of Study and Level of Education in Canada', Human Resources Development Canada, Applied Research Branch, fall 2000.

¹ Please note that these field of study titles may not correspond exactly to those used in *Part 2: Outlooks by Field of Study*, due to different data sources.

**Average of the
1996-1998
Period**

National Unemployment Rate		6.0
Professional Occupations: those usually requiring a university degree (Skill Level A)		2.9
311	Physicians, Dentists and Veterinarians	0.6
312	Opt., Chiro. & Other Health Diag. & Treating Professionals	1.1
315	Nurse Supervisors and Registered Nurses	1.4
314	Therapy and Assessment Professionals	1.6
411	Judges, Lawyers and Quebec Notaries	1.8
313	Pharmacists, Dietitians and Nutritionists	1.9
415	Psychologists, Social Workers, Counsellors, Clergy & Probation Officers	2.5
213	Civil, Mechanical, Electrical and Chemical Engineers	2.5
111	Auditors, Accountants and Investment Professionals	2.7
216	Mathematicians, Systems Analysts and Computer Programmers	2.7
414	Secondary & Elem. School Teachers and Counsellors	2.8
112	Human Resources and Business Service Professionals	2.8
214	Other Engineers	3.0
511	Librarians, Archivists, Conservators and Curators	3.6
215	Architects, Urban Planners and Land Surveyors	4.0
416	Policy and Program Officers	4.3
212	Life Science Professionals	4.4
512	Writing, Translating and Public Relations Professionals	4.7
211	Physical Science Professionals	4.8
413	College and Other Vocational Instructors	4.9
412	University Professors and Assistants	5.0
513	Creative and Performing Artists	5.1
Technical, Paraprofessional, Skilled Occupations: those usually requiring a college/trade diploma (Skill Level B)		5.2
626	Police Officers and Firefighters	1.1
825	Contractors, Operators & Supervisors in Agriculture, Horticulture & Aquaculture	1.5
736	Train Crew Operating Occupations	1.6
321	Medical Technologists & Technicians (except Dental Health)	2.0
623	Insurance and Real Estate Sales Occs and Buyers	2.0
722	Supervisors, Railway and Motor Transportation Occupations	2.1
323	Other Technical Occs in Health Care (except Dental)	2.3
322	Technical Occupations in Dental Health Care	2.4
735	Stationary Engineers & Power Station & System Ops	2.6
821	Supervisors, Processing Occupations	2.6
922	Supervisors, Assembly and Fabrication	2.6
123	Finance and Insurance Administrative Occupations	2.7
122	Administrative and Regulatory Occupations	2.9
224	Technical Occs in Electronics and Electrical Engineering	3.0
627	Technical Occupations in Personal Service	3.2
121	Clerical Supervisors	3.6
622	Technical Sales Specialists, Wholesale Trade	3.6
923	Central Control and Process Operators in Manufacturing and Processing	3.6
721	Contractors and Supervisors, Trades & Related Workers	3.6
822	Supervisors, Mining, Oil and Gas	3.7
221	Technical Occupations in Physical Sciences	3.9
223	Technical Occs in Civil, Mech., and Ind. Engineering	4.0
723	Machinists and Related Occupations	4.0
621	Sales and Service Supervisors	4.1
421	Paralegals, Soc. Service Workers & Occs in Ed./Religion, n.e.c.	4.2
227	Transportation Officers and Controllers	4.3
731	Mach. & Trans. Equipment Mech. (except Motor Vehicle)	4.6

² The unemployment rate for all occupations includes, as unemployed, only those unemployed persons who also held employment within the past twelve months, because they can be classified to an occupation. The result is that the unemployment rate in *Job Futures 2000* is considerably lower than that for the entire labour force which is often the one reported in the media.

524	Creative Designers and Craftpersons	4.7
521	Tech. Occs in Lib., Archives, Museums & Galleries	4.7
225	Technical Occs in Arch., Draft, Surveying and Mapping	4.9
738	Printing Press Ops, Comm. Divers & Related Occs, n.e.c.	5.0
124	Secretaries, Recorders and Transcriptionists.....	5.1
226	Other Technical Inspectors and Regulatory Officers	5.3
732	Motor Vehicle Mechanics	6.0
522	Photo., Graphic Arts Tech. & Motion Pic., Brdcst & Arts	6.3
523	Announcers and Other Performers	6.6
821	Supervisors, Logging and Forestry.....	6.8
734	Upholsterers, Tailors, Shoe Rep., Jewellers & Related Occupations.....	7.2
724	Electrical Trades and Telecommunications Occupations	7.3
733	Other Mechanics	7.5
823	Underground Miners, Oil & Gas Drillers & Rel. Workers	7.5
625	Butchers and Bakers	7.9
826	Fishing Vessel Masters, Skippers, Fishermen/Women.....	8.5
737	Crane Operators, Drillers and Blasters	8.9
525	Athletes, Coaches, Referees and Related Occupations.....	9.6
624	Chefs and Cooks	10.1
725	Plumbers, Pipefitters and Gas Fitters	10.3
222	Technical Occupations in Life Sciences	11.4
726	Metal Forming, Shaping and Erecting Occupations.....	12.1
727	Carpenters and Cabinetmakers	14.2
729	Other Construction Trades	15.2
728	Masonry and Plastering Trades	16.6
824	Logging Machinery Operators	19.4

Intermediate Occupations: those usually requiring a high school diploma (Skill Level C).....7.2

341	Assisting Occs in Support of Health Services	3.0
143	Finance and Insurance Clerks	3.4
643	Occupations in Travel and Accommodation	4.1
641	Sales Representatives, Wholesale Trade	4.2
646	Other Occupations in Protective Service	4.5
146	Mail and Message Distribution Occupations	4.7
144	Administrative Support Clerks	4.8
648	Other Occupations in Personal Service	5.5
141	Clerical Occupations, General Office Skills.....	6.2
147	Recording, Scheduling and Distributing Occupations.....	6.2
942	Mach. Ops & Rel. Wkrs in Chem., Plastic & Rubber Proc.	6.2
948	Mechanical, Electrical and Electronics Assemblers	6.2
941	Mach. Ops & Rel. Workers in Metal & Min. Prod. Proc.	6.3
943	Mach. Ops & Rel. Wkrs in Pulp & Paper Production & Wood Processing	6.8
642	Retail Salespersons and Sales Clerks	6.9
741	Motor Vehicle and Transit Drivers	7.1
947	Printing Machine Operators and Related Occupations	7.2
647	Childcare and Home Support Workers	7.3
743	Other Transport Equipment Ops and Related Workers	7.3
142	Office Equipment Operators	7.6
944	Mach. Ops & Related Workers in Textile Processing	7.9
145	Library, Correspondence and Related Information Clerks.....	7.9
951	Machining, Mtlwrkng, Wdwrkng & Related Mach. Ops	8.2
645	Occupations in Food and Beverage Service	9.0
949	Other Assembly and Related Occupations	9.3
945	Mach. Ops & Rel. Wkrs in Fabric, Fur & Leather Products Manu.	9.9
744	Other Installers, Repairers and Servicers.....	10.3
745	Longshore Workers and Material Handlers	11.0
946	Mach. Ops & Rel. Wkrs in Food, Beverage & Tobacco Proc.	11.4
843	Agriculture and Horticulture Workers	11.8

742	Heavy Equipment Operators	13.1
841	Mine Service Workers & Operators in Oil & Gas Drilling	13.1
644	Tour and Recreational Guides and Amusement Occs	15.3
842	Logging and Forestry Workers	24.1
844	Other Fishing and Trapping Occupations	32.3

Labouring & Elemental Occupations: those usually requiring less than high school graduation (Skill Level D)..10.9

663	Elemental Medical and Hospital Assistants	3.6
661	Cashiers	7.1
665	Security Guards and Related Occupations	7.6
668	Other Elemental Service Occupations	7.8
666	Cleaners	8.5
664	Food Counter Attendants and Kitchen Helpers	8.8
662	Other Sales and Related Occupations	8.8
961	Labourers in Processing, Manufacturing and Utilities	12.1
667	Other Attendants in Travel, Accommodation and Rec.....	12.9
762	Public Works and Other Labourers, n.e.c.	13.0
761	Trades Helpers and Labourers	24.1
861	Primary Production Labourers	24.1

Management Occupations2.8

013	Managers in Communication (except Broadcasting)	0.9
021	Managers in Eng., Arch., Science and Info. Systems.....	1.8
041	Managers in Public Administration	1.9
031	Mgrs in Health, Educ., Social and Comm. Services	2.0
001	Legislators and Senior Management.....	2.0
081	Managers in Primary Production (except Agriculture)	2.1
012	Managers in Financial and Business Services	2.2
011	Administrative Services Managers	2.4
061	Sales, Marketing and Advertising Managers.....	2.4
065	Managers in Other Services	2.4
091	Managers in Manufacturing and Utilities	2.6
062	Managers in Retail Trade	3.2
071	Managers in Construction and Transportation	3.3
072	Facility Operation and Maintenance Managers	3.8
051	Managers in Art, Culture, Recreation and Sport	4.2
063	Managers in Food Service and Accommodation	4.4
064	Managers in Protective Service	10.0

Source: Statistics Canada, Labour Force Survey, average of the 1996-1998 period.

Appendix C

Table A.4.1 — *Across Canada – Summary of Methodologies By Province*

There are several factors which may influence how qualitative and quantitative information is synthesized, analyzed and interpreted in order to arrive at a realistic view of current or future prospects for finding work. These factors include: the type, sources, and timing of data used; the resources available to undertake the analysis; variations in forecasting or projection methods and models; and key experts available to validate the projections.

The table below presents a brief summary of the methodology used by the COPS¹ partners for each province, to arrive at their respective forecasts and list of sample occupations with a favourable outlook found in Chapter 4. Methodologies, data and forecast periods may differ. We also encourage you to consult the provincial Job Futures or equivalent Internet sites provided with each sample list on the map in Chapter 4 for additional information, including profiles and outlooks for other occupations and more detail on methodologies.

Province	Outlook Period	Latest Year of Data Used	The outlook rating is based on:
Canada	1999 to 2004	Earnings – 1997 Labour Force – 1998 Consultations – 1999	<ul style="list-style-type: none"> • Most recent occupational forecast prepared by HRDC on: <ul style="list-style-type: none"> - expected employment growth (expansion demand, replacement demand); - expected supply of labour; and • Qualitative input from industry associations, professional groups, unions and sector councils.
Newfoundland	1998 to 2003	Earnings – 1998 Graduate Survey – 1999 Consultations – 2000	<ul style="list-style-type: none"> • Most recent occupational forecast of expected employment growth; • Information on graduate follow-up; and • Qualitative input from industry and professional associations.
Nova Scotia	1999 to 2003	1998	<ul style="list-style-type: none"> • Most recent occupational forecast prepared by HRDC NS region; and • Qualitative and quantitative information for occupations using different economic indicators (i.e. number of job openings, proxy rates of unemployment, etc.).
Prince Edward Island	1999 to 2003	Earnings – 1996 & 1998 Industrial and Occupational Trends – 1998 Consultations – 1999	<ul style="list-style-type: none"> • Most recent occupational forecast prepared by HRDC PEI; • Consultations on conditions, trends and outlooks with employers, professional associations, industry groups, unions, training institutions and regulatory bodies; and • Analysis by PEI Job Futures' researchers and LMI team.
New Brunswick	1999 to 2004	Earnings -1996 Labour Force – 1998 Consultations – 1999 & 2000	<ul style="list-style-type: none"> • Most recent occupational forecast prepared by HRDC on: <ul style="list-style-type: none"> - expected employment growth; - expected supply of labour; and • Qualitative input from industry associations, professional groups, unions and sector councils.

¹The COPS (Canadian Occupational Projection System) partners are a group of labour market specialists coordinated by the Applied Research Branch at national headquarters of HRDC, with representatives from each provincial department of education or labour and each HRDC regional office across Canada.

Province	Outlook Period	Latest Year of Data Used	The outlook rating is based on:
Quebec	1999 to 2005	1998	<ul style="list-style-type: none"> • The most recent occupational outlooks produced by the Quebec regional office of HRDC are based on anticipated growth in labour force supply and demand; and • Qualitative information from consultations with professional and industry associations and key stakeholders.
Ontario	1999 to 2008	1998	<ul style="list-style-type: none"> • Examination of supply-demand indicators; and • Information from employers on hiring difficulties collected during the 1999 Ontario Wage Survey.
Manitoba	2000 to 2001	1999	<ul style="list-style-type: none"> • COPS 2000 and 2001 demand forecast; • Demand/supply gap analysis; and • Consultations at industrial, governmental and educational levels to accept or reject the ratings.
Saskatchewan	1998 to 2003	1998	<ul style="list-style-type: none"> • Demand forecast (expected occupational employment requirements and attrition); • Consultation with LMI analysts; and • Consultants report on short-term (five year) forecasts of shortages at the occupational level using supply and demand indicators to identify occupations "at risk" of a shortage in the labour market.
Alberta	2000 to 2005	1998	<ul style="list-style-type: none"> • Joint regional HRDC and provincial COPS occupational forecast; • Industry consultations and consultants report; and • Consultations with regional and provincial LMI analysts.
British Columbia	1998 to 2008	1998	<ul style="list-style-type: none"> • Qualitative and quantitative information on demand (new job creation, attrition, turnover) and supply (current and expected availability) factors; and • Consultations with industries and government departments.
Yukon	1998 to 2008	1996 and 1998	<ul style="list-style-type: none"> • Expected economic growth and employment levels and growth; • Expected level of new employment due to retirements or other factors; • Unemployment levels; and • Qualitative information from labour, industry and employment group consultations.

Appendix D

Table A.5.1.¹ — **National Occupational Outlooks At A Glance**

Occupations with 'Good' Outlooks in 2004

NOC	Occupations	Outlooks	
		Current	2004
001	Legislators and Senior Managers	Good	Good
011	Administrative Service Managers	Good	Good
0111	Financial Managers	Good	Good
0112	Human Resource Managers	Good	Good
012	Managers in Financial and Business Services	Good	Good
013	Managers in Communication (Except Broadcasting)	Good	Good
021	Managers in Engineering, Architecture, Science and Information Systems	Good	Good
031	Managers in Health, Education, Social and Community Services	Good	Good
041	Managers in Public Administration	Good	Good
051	Managers in Art, Culture, Recreation and Sport	Good	Good
061	Sales, Marketing and Advertising Managers	Good	Good
062	Managers in Retail Trade	Good	Good
071	Managers in Construction and Transportation	Fair	Good
0711	Construction Managers	Fair	Good
072	Facility Operation and Maintenance Managers	Good	Good
091	Managers in Manufacturing and Utilities	Good	Good
111	Auditors, Accountants and Investment Professionals	Good	Good
112	Human Resources and Business Service Professionals	Good	Good
1122	Professional Business Services to Management	Good	Good
122	Administrative and Regulatory Occupations	Good	Good
1221	Administrative Officers	Good	Good
1225	Purchasing Agents and Officers	Good	Good
123	Finance and Insurance Administrative Occupations	Good	Good
1233	Insurance Adjusters and Claims Examiners	Good	Good
144	Administrative Support Clerks	Fair	Good
213	Civil, Mechanical, Electrical and Chemical Engineers	Good	Good
2131	Civil Engineers	Good	Good
2132	Mechanical Engineers	Good	Good
2133	Electrical and Electronics Engineers	Good	Good
215	Architects, Urban Planners and Land Surveyors	Good	Good
216	Mathematicians, Systems Analysts and Computer Programmers	Good	Good
2162	Computer Systems Analysts	Good	Good
227	Transportation Officers and Controllers	Good	Good
2271	Air Pilots, Flight Engineers and Flying Instructors	Good	Good
311	Physicians, Dentists and Veterinarians	Good	Good
3111	Specialist Physicians	Good	Good
3112	General Practitioners and Family Physicians	Good	Good
3113	Dentists	Good	Good
312	Optometrists, Chiropractors and Other Health Diagnosing and Treating Professionals	Good	Good
313	Pharmacists, Dietitians and Nutritionists	Good	Good
3131	Pharmacists	Good	Good
315	Nursing Supervisors and Registered Nurses	Good	Good
321	Medical Technologists and Technicians (Except Dental)	Good	Good
3211	Medical Laboratory Technologists and Pathologists' Assistants	Good	Good
3215	Medical Radiation Technologists	Good	Good
322	Technical Occupations in Dental Health Care	Good	Good
3222	Dental Hygienists and Dental Therapists	Good	Good
411	Judges, Lawyers and Quebec Notaries	Good	Good
412	University Professors and Assistants	Fair	Good
4143	School and Guidance Counsellors	Good	Good
4151	Psychologists	Good	Good
4211	Paralegal and Related Occupations	Good	Good

¹ See *Job Futures 2000, Part 1: Outlooks by Occupation* for a complete profile of each occupation.

511	Librarians, Archivists, Conservators and Curators	Fair	Good
5121	Writers	Good	Good
5241	Graphic Designers and Illustrating Artists	Good	Good
621	Sales and Service Supervisors	Fair	Good
623	Insurance and Real Estate Sales Occupations and Buyers	Good	Good
6231	Insurance Agents and Brokers	Good	Good
6232	Real Estate Agents and Salespersons	Good	Good
6233	Retail and Wholesale Buyers	Good	Good
626	Police Officers and Firefighters	Good	Good
663	Elemental Medical and Hospital Assistants	Good	Good
721	Contractors and Supervisors, Trades and Related Workers	Good	Good
722	Supervisors, Railway and Motor Transportation Occupations	Good	Good
7232	Tool and Die Makers	Good	Good
725	Plumbers, Pipefitters and Gas Fitters	Fair	Good
7311	Construction Millwrights and Industrial Mechanics (Except Textile)	Good	Good
7315	Aircraft Mechanics and Aircraft Inspectors	Good	Good
735	Stationary Engineers and Power Station and System Operators	Good	Good
742	Heavy Equipment Operators	Fair	Good
821	Supervisors, Logging and Forestry	Good	Good
822	Supervisors, Mining, Oil and Gas	Good	Good
921	Supervisors, Processing Occupations	Good	Good
922	Supervisors, Assembly and Fabrication	Good	Good
9482	Motor Vehicle Assemblers, Inspectors and Testers	Good	Good
9511	Machining Tool Operators	Good	Good

Occupations with 'Fair' Outlooks in 2004

NOC	Occupations	Outlooks	
		Current	2004
063	Managers in Food Service and Accommodation	Fair	Fair
065	Managers in Other Services	Fair	Fair
081	Managers in Primary Production (Except Agriculture)	Good	Fair
1111	Financial Auditors and Accountants	Fair	Fair
1121	Specialists in Human Resources	Fair	Fair
121	Clerical Supervisors	Limited	Fair
1231	Bookkeepers	Fair	Fair
143	Finance and Insurance Clerks	Fair	Fair
1431	Accounting and Related Clerks	Fair	Fair
145	Library, Correspondence and Related Information Clerks	Fair	Fair
147	Recording, Scheduling and Distributing Occupations	Fair	Fair
211	Physical Science Professionals	Limited	Fair
212	Life Science Professionals	Fair	Fair
214	Other Engineers	Fair	Fair
2163	Computer Programmers	Fair	Fair
221	Technical Occupations in Physical Sciences	Fair	Fair
223	Technical Occupations in Civil, Mechanical and Industrial Engineering	Fair	Fair
224	Technical Occupations in Electronics and Electrical Engineering	Good	Fair
2253	Drafting Technologists and Technicians	Fair	Fair
226	Other Technical Inspectors and Regulatory Officers	Fair	Fair
3142	Physiotherapists	Good	Fair
3212	Medical Laboratory Technicians	Fair	Fair
323	Other Technical Occupations in Health Care (Except Dental)	Fair	Fair
3233	Registered Nursing Assistants (Licensed/Registered Practical Nurses)	Fair	Fair
341	Assisting Occupations in Support of Health Services	Fair	Fair
413	College and Other Vocational Instructors	Fair	Fair
414	Secondary and Elementary School Teachers and Counsellors	Fair	Fair
4141	Secondary School Teachers	Fair	Fair

4142	Elementary and Kindergarten Teachers	Fair	Fair
415	Psychologists, Social Workers, Counsellors, Clergy and Probation Officers	Fair	Fair
4152	Social Workers	Fair	Fair
4153	Family, Marriage and Other Related Counsellors	Fair	Fair
416	Policy and Program Officers, Researchers and Consultants	Fair	Fair
4160	Health and Social Policy Researchers, Consultants and Program Officers	Fair	Fair
4161	Natural and Applied Science Policy Researchers, Consultants and Program Officers	Fair	Fair
4163	Economic Development Officers and Marketing Researchers and Consultants	Fair	Fair
4166	Education Policy Researchers, Consultants and Program Officers	Fair	Fair
421	Paralegal, Social Services Workers and Occupations in Education and Religion	Fair	Fair
4212	Community and Social Service Workers	Fair	Fair
4215	Instructors and Teachers of Disabled Persons	Fair	Fair
512	Writing, Translating and Public Relations Professionals	Fair	Fair
5122	Editors	Fair	Fair
5124	Professional Occupations in Public Relations and Communications	Fair	Fair
513	Creative and Performing Artists	Fair	Fair
521	Technical Occupations in Libraries, Archives, Museums and Galleries	Fair	Fair
522	Photographers, Graphics Arts Technicians and Technical Occupations in Motion Pictures, Broadcasting and the Performing Arts	Fair	Fair
524	Creative Designers and Craftspersons	Fair	Fair
622	Technical Sales Specialists, Wholesale Trade	Fair	Fair
627	Technical Occupations in Personal Service	Fair	Fair
641	Sales Representatives, Wholesale Trade	Fair	Fair
643	Occupations in Travel and Accommodation	Fair	Fair
6431	Travel Counsellors	Fair	Fair
665	Security Guards and Related Occupations	Fair	Fair
723	Machinists and Related Occupations	Fair	Fair
7231	Machinists and Machining and Tooling Inspectors	Fair	Fair
7242	Industrial Electricians	Fair	Fair
7272	Cabinetmakers	Fair	Fair
728	Masonry and Plastering Trades	Limited	Fair
729	Other Construction Trades	Fair	Fair
731	Machinery and Transportation Equipment Mechanics (Except Motor Vehicle)	Fair	Fair
7312	Heavy-Duty Equipment Mechanics	Fair	Fair
732	Motor Vehicle Mechanics	Fair	Fair
7321	Motor Vehicle Mechanics, Technicians and Mechanical Repairers	Fair	Fair
733	Other Mechanics	Fair	Fair
741	Motor Vehicle and Transit Drivers	Fair	Fair
7411	Truck Drivers	Fair	Fair
7412	Bus Drivers and Subway and Other Transit Operators	Fair	Fair
744	Other Installers, Repairers and Servicers	Fair	Fair
823	Underground Miners, Oil and Gas Drillers and Related Workers	Fair	Fair
825	Contractors, Operators and Supervisors in Agriculture, Horticulture and Aquaculture	Fair	Fair
841	Mine Service Workers and Operators in Oil and Gas Drilling	Fair	Fair
941	Machine Operators and Related Workers in Metal and Mineral Products Processing	Limited	Fair
942	Machine Operators and Related Workers in Chemical, Plastic and Rubber Processing	Fair	Fair
943	Machine Operators and Related Workers in Pulp and Paper Production and Wood Processing	Fair	Fair
948	Mechanical, Electrical and Electronics Assemblers	Fair	Fair
9483	Electronics Assemblers, Fabricators, Inspectors and Testers	Fair	Fair
949	Other Assembly and Related Occupations	Fair	Fair
951	Machining, Metalworking, Woodworking and Related Machine Operators	Fair	Fair
9514	Metalworking Machine Operators	Fair	Fair

Occupations with 'Limited' Outlooks in 2004

NOC	Occupations	Outlooks	
		Current	2004
124	Secretaries, Recorders and Transcriptionists	Limited	Limited
1242	Legal Secretaries	Limited	Limited
1243	Medical Secretaries	Limited	Limited
141	Clerical Occupations, General Office Skills	Limited	Limited
142	Office Equipment Operators	Limited	Limited
1421	Computer Operators	Limited	Limited
1422	Data Entry Clerks	Limited	Limited
1433	Tellers, Financial Services	Limited	Limited
146	Mail and Message Distribution Occupations	Fair	Limited
222	Technical Occupations in Life Sciences	Limited	Limited
225	Technical Occupations in Architecture, Drafting, Surveying and Mapping	Limited	Limited
314	Therapy and Assessment Professionals	Fair	Limited
3143	Occupational Therapists	Fair	Limited
523	Announcers and Other Performers	Fair	Limited
525	Athletes, Coaches, Referees and Related Occupations	Fair	Limited
624	Chefs and Cooks	Limited	Limited
625	Butchers and Bakers	Limited	Limited
642	Retail Salespersons and Sales Clerks	Fair	Limited
644	Tour and Recreational Guides and Amusement Occupations	Limited	Limited
645	Occupations in Food and Beverage Service	Limited	Limited
647	Child Care and Home Support Workers	Fair	Limited
6470	Early Childhood Educators and Assistants	Fair	Limited
648	Other Occupations in Personal Services	Limited	Limited
661	Cashiers	Fair	Limited
662	Other Sales and Related Occupations	Fair	Limited
664	Food Counter Attendants and Kitchen Helpers	Limited	Limited
666	Cleaners	Limited	Limited
667	Other Attendants in Travel, Accommodation and Recreation	Limited	Limited
668	Other Elemental Service Occupations	Limited	Limited
724	Electrical Trades and Telecommunications Occupations	Limited	Limited
7241	Electricians (Except Industrial and Power Systems)	Limited	Limited
726	Metal Forming, Shaping and Erecting Occupations	Limited	Limited
7261	Sheet Metal Workers	Limited	Limited
727	Carpenters and Cabinetmakers	Limited	Limited
7271	Carpenters	Limited	Limited
734	Upholsterers, Tailors, Shoe Repairers, Jewellers and Related Occupations	Limited	Limited
736	Train Crew Operating Occupations	Limited	Limited
737	Crane Operators, Drillers and Blasters	Limited	Limited
738	Printing Press Operators, Commercial Divers and Other Trades and Related Occupations	Limited	Limited
743	Other Transport Equipment Operators and Related Workers	Limited	Limited
745	Longshore Workers and Material Handlers and Related Occupations	Limited	Limited
761	Trades Helpers and Labourers	Limited	Limited
762	Public Works and Other Labourers	Limited	Limited
824	Logging Machinery Operators	Limited	Limited
826	Fishing Vessel Masters and Skippers and Fishermen/women	Limited	Limited
842	Logging and Forestry Workers	Fair	Limited
843	Agriculture and Horticulture Workers	Limited	Limited
844	Other Fishing and Trapping Occupations	Limited	Limited
861	Primary Production Labourers	Limited	Limited
923	Central Control and Process Operators in Manufacturing and Processing	Limited	Limited
944	Machine Operators and Related Workers in Textile Processing	Limited	Limited
945	Machine Operators and Related Workers in Fabric, Fur and Leather Products Manufacturing	Limited	Limited
946	Machine Operators and Related Workers in Food, Beverage and Tobacco Processing	Limited	Limited
947	Printing Machine Operators and Related Occupations	Limited	Limited
9510	Welders and Soldering Machine Operators	Limited	Limited
961	Labourers in Processing, Manufacturing and Utilities	Limited	Limited

Table A.5.2.² — **National Field of Study Outlooks At A Glance**

Fields of Study with 'Good' Outlooks in 2004

FOS	Fields of Study	Outlooks	
		Current	2004
C110	Accounting	Good	Good
C390	Transportation Engineering Technologies	Good	Good
C523	Health Technologies - Other	Good	Good
C550	Medical Laboratory Technologies	Good	Good
C560	Nursing - Diploma	Good	Good
C561	Nursing - Other	Good	Good
C580	Radiography/Radiation Therapy/ Nuclear Medicine Technologies	Good	Good
C720	Computer Science	Good	Good
M120	Commerce - Business Administration	Good	Good
M130	Specialized Administration	Good	Good
M316	Mechanical Engineering	Good	Good
M350	Civil Engineering	Good	Good
M360	Electrical Engineering	Good	Good
M370	Engineering - Other	Good	Good
M521	Medical/Surgical Specialties	Good	Good
M523	Health - Other	Good	Good
M560	Nursing	Good	Good
M720	Computer Science	Good	Good
M740	Mathematics	Good	Good
M820	Economics	Good	Good
M830	Geography	Good	Good
M850	Planning and Resource Management	Good	Good
T720	Computer Science	Good	Good
U120	Commerce - Business Administration	Good	Good
U130	Specialized Administration	Good	Good
U316	Mechanical Engineering	Good	Good
U330	Architecture	Good	Good
U340	Chemical Engineering	Good	Good
U350	Civil Engineering	Good	Good
U360	Electrical Engineering	Good	Good
U520	Medicine (MD)	Good	Good
U523	Health - Other	Good	Good
U530	Dentistry	Good	Good
U560	Nursing	Good	Good
U570	Pharmacy	Good	Good
U630	Food and Household Sciences	Good	Good
U680	Veterinary Sciences and Medicine	Good	Good
U720	Computer Science	Good	Good
U740	Mathematics	Good	Good
U820	Economics	Good	Good
U840	Law	Good	Good
U850	Planning and Resource Management	Good	Good
M430	Library and Records Science	Fair	Good
M620	Biology	Fair	Good
U750	Physics	Fair	Good

² See *Job Futures 2000, Part 2: Outlooks by Field of Study* for a complete profile of each field of study.

Fields of Study with 'Fair' Outlooks in 2004

FOS	Fields of Study	Outlooks	
		Current	2004
C362	Electrical/Electronic Engineering Technologies	Good	Fair
C382	Instrumentation	Good	Fair
C030	Commercial and Promotional Arts	Fair	Fair
C040	Creative and Design Arts	Fair	Fair
C050	Fine Arts	Fair	Fair
C060	Graphic and Audio-Visual Arts	Fair	Fair
C111	Financial Management - Other	Fair	Fair
C121	Business Administration.....	Fair	Fair
C131	Institutional Management	Fair	Fair
C140	Marketing	Fair	Fair
C315	Mechanical Engineering Technologies	Fair	Fair
C331	Architectural and Construction Technologies - Other	Fair	Fair
C340	Chemical Engineering Technologies	Fair	Fair
C350	Civil Engineering Technologies	Fair	Fair
C351	Surveying	Fair	Fair
C380	Industrial Engineering Technologies	Fair	Fair
C410	Mass Communications	Fair	Fair
C531	Dental Hygiene/Assistant Technologies.....	Fair	Fair
C610	Agricultural Technologies	Fair	Fair
C660	Primary Technologies - Other	Fair	Fair
C841	Protection and Correction Services	Fair	Fair
C891	Social Services	Fair	Fair
C893	Sports and Recreation	Fair	Fair
M220	Education - Non-Teaching	Fair	Fair
M230	Elementary/Secondary Teacher Training	Fair	Fair
M240	Physical Education	Fair	Fair
M250	Teaching - Other	Fair	Fair
M340	Chemical Engineering	Fair	Fair
M402	English	Fair	Fair
M403	French	Fair	Fair
M404	Linguistics, Translation and Interpretation	Fair	Fair
M420	History	Fair	Fair
M450	Religious and Theological Studies	Fair	Fair
M510	Basic Medical Sciences	Fair	Fair
M860	Political Science	Fair	Fair
M870	Psychology	Fair	Fair
M880	Sociology	Fair	Fair
M890	Social Work/Welfare	Fair	Fair
T060	Graphic and Audio-Visual Arts	Fair	Fair
T070	Personal Arts	Fair	Fair
T110	Accounting	Fair	Fair
T121	Business Administration.....	Fair	Fair
T312	Auto Body Repair	Fair	Fair
T313	Auto Mechanic	Fair	Fair
T314	Heavy Equipment Mechanic	Fair	Fair
T315	Mechanical Engineering Technologies - Other	Fair	Fair
T333	Welding	Fair	Fair
T362	Electrical/Electronic Engineering Technologies	Fair	Fair
T381	Manufacturing Engineering Technologies	Fair	Fair
T383	Machining	Fair	Fair
T390	Transportation Engineering Technologies	Fair	Fair
T531	Dental Hygiene/Assistant Technologies.....	Fair	Fair
T561	Nursing - Other	Fair	Fair

T562	Nursing Aide/Orderly	Fair	Fair
U010	Applied Arts	Fair	Fair
U051	Music	Fair	Fair
U220	Education - Non-Teaching	Fair	Fair
U230	Elementary/Secondary Teacher Training	Fair	Fair
U240	Physical Education	Fair	Fair
U250	Teaching - Other	Fair	Fair
U370	Engineering - Other	Fair	Fair
U402	English	Fair	Fair
U403	French	Fair	Fair
U410	Mass Communications	Fair	Fair
U420	History	Fair	Fair
U450	Religious and Theological Studies	Fair	Fair
U612	Animal and Plant Sciences	Fair	Fair
U613	Agriculture - Other	Fair	Fair
U620	Biology	Fair	Fair
U641	Forestry	Fair	Fair
U830	Geography	Fair	Fair
U860	Political Science	Fair	Fair
U870	Psychology	Fair	Fair
U880	Sociology	Fair	Fair
U890	Social Work/Welfare	Fair	Fair
M710	Chemistry	Limited	Fair
M730	Geology	Limited	Fair
M750	Physics	Limited	Fair
T150	Secretary - Accounting and Bookkeeping	Limited	Fair
T350	Civil Engineering Technologies	Limited	Fair
U710	Chemistry	Limited	Fair
U730	Geology	Limited	Fair

Fields of Study with 'Limited' Outlooks in 2004

FOS	Fields of Study	Outlooks	
		Current	2004
C141	Retail Sales	Fair	Limited
C210	Education and Counselling	Fair	Limited
T040	Creative and Design Arts	Fair	Limited
T141	Retail Sales	Fair	Limited
T891	Social Services	Fair	Limited
U590	Rehabilitation Medicine	Fair	Limited
C151	Secretary - General	Limited	Limited
C152	Secretary - Legal	Limited	Limited
C153	Secretary - Medical	Limited	Limited
C334	Architectural Design and Drafting Technologies	Limited	Limited
C370	Engineering Technologies - Other	Limited	Limited
C640	Environmental and Conservation Technologies	Limited	Limited
C641	Forestry Technologies	Limited	Limited
C670	Resource Processing Technologies	Limited	Limited
C812	Service Industries Technologies	Limited	Limited
T151	Secretary - General	Limited	Limited
T152	Secretary - Legal	Limited	Limited
T153	Secretary - Medical	Limited	Limited
T155	Secretary - Word Processing	Limited	Limited
T332	Construction Technologies	Limited	Limited

T334	Architectural Design and Drafting Technologies	Limited	.....	Limited
T335	Drafting Technologies	Limited	.....	Limited
T610	Agricultural Technologies	Limited	.....	Limited
T631	Food Processing Technologies	Limited	.....	Limited
T810	Cooking	Limited	.....	Limited
T811	Food Preparation - Other	Limited	.....	Limited
T812	Service Industries Technologies - Other	Limited	.....	Limited
U404	Linguistics, Translation and Interpretation	Limited	.....	Limited

Glossary of Terms

Term	Definition
Accreditation	<ul style="list-style-type: none">• process that an agency or an association uses to grant public recognition to a training institution, program of study, individual or service that meets pre-set standards.
Applied Research Branch (ARB)	<ul style="list-style-type: none">• a branch within Human Resources Development Canada which studies various characteristics of Canadians to help determine policy, or changes to policy, that may be implemented by the Government of Canada depending on the results of the research. Research areas include the workplace, child welfare, employment insurance, aging, labour market conditions, occupational projections, etc. ARB also publishes the <i>ARB Bulletin</i>, <i>Job Futures</i> and various other research papers.
ARB	<ul style="list-style-type: none">• see Applied Research Branch.
Attrition	<ul style="list-style-type: none">• jobs that are vacated due to retirement or death of the workers.
Average Annual Rate	<ul style="list-style-type: none">• in <i>Job Futures</i>, this phrase describes the growth in employment or the number of graduates, averaged over a five- or ten-year period, e.g., from 1990 to 1995 the number of graduates increased by 10%, or at an average annual rate of 2% per year. The average annual rate reports the growth as being evenly distributed over each year. This will smooth a slightly irregular yearly growth pattern.
Bachelor's Degree	<ul style="list-style-type: none">• undergraduate degree of university education which may take from three to five years to complete. In <i>Job Futures</i>, the reference to Bachelor's degree or level includes undergraduate diploma or certificate programs which may take from one to two years to complete.
Canadian Occupational Projection System (COPS)	<ul style="list-style-type: none">• a family of economic models used to forecast current or future labour market conditions on an industrial and occupational basis. The system takes into account both the supply of, and the demand for, workers by industry and occupation.
Career	<ul style="list-style-type: none">• used to describe the sequence of occupations, jobs or positions held in the lifetime of a person.
Census (e.g. 1991,1996)	<ul style="list-style-type: none">• a survey of all Canadians conducted every five years across Canada by Statistics Canada. Used to determine population characteristics such as number of people, ages, education level attained, employment, unemployment, occupations, earnings, etc.
Certification	<ul style="list-style-type: none">• the issuance of a formal document that certifies or declares that the holder possesses a set of skills, knowledge and abilities, usually received after completion of education/training/experience in the related areas.
College	<ul style="list-style-type: none">• post-secondary institution offering certificate and diploma programs. Courses are usually one to three years in length.
Contracting-out	<ul style="list-style-type: none">• when an organization hires someone from outside their organization to perform a pre-defined task, for an agreed upon fee, in a set period of time. Synonymous with outsourcing.
COPS	<ul style="list-style-type: none">• see Canadian Occupational Projection System.
Costs/Benefits of Education	<ul style="list-style-type: none">• costs include tuition, books and foregone earnings.• benefits include the extra earnings that individuals would make by continuing their education as opposed to entering the labour market immediately upon graduation.

Term

Definition

Current Outlook

- used to describe the chances of finding employment for each occupation or field of study in *Job Futures* in the current period of time.
- see *Understanding the Occupational Profiles in Part 1* and *Understanding the Field of Study Profiles in Part 2*.

Cyclical

- fluctuations in economic activity characterized by periods of economic boom and downturn

Data

- numerical information which captures historical facts, used for analysis to describe and characterize why events have occurred.

Demand

- in the context of *Job Futures*, this term represents the number of workers that employers need to produce a given quantity of goods or services.

Earnings

- income that workers receive in the form of wages, salaries and net self-employed earnings. Excludes other forms of compensation such as retirement benefits, stock options or expense accounts.
- see **Earnings (Full-time); (Full-year); (Part-time); and (Part-year)**.

Earnings (Full-time)

- income that workers receive in the form of wages, salaries and net self-employed earnings from working 30 hours or more per week in their main job.

Earnings (Full-year)

- income that workers receive in the form of wages, salaries and net self-employed earnings from working either full time, part time, or both for the entire year.

Earnings (Part-time)

- income that workers receive in the form of wages, salaries and net self-employed earnings from working less than 30 hours per week in their main job.

Earnings (Part-year)

- income that workers receive in the form of wages, salaries and net self-employed earnings from working either full time, part time, or both for only part of the year.

Economic Conditions

- indicator of the state of the Canadian economy, in particular those relevant to the labour market.

Education, Training and Experience

- see *Understanding the Occupational Profiles in Part 1*.

Education Level – Community College

- Community college includes graduates of career programs, hospitals and schools of nursing, colleges d'enseignement general et professionnel (CEGEPs) and teachers colleges, but excludes university transfer program graduates.

Education Level – Master's, University

- Master's, university includes master's degrees and graduate diplomas and certificates.

Education Level – Trade/Vocational

- Trade/vocational includes pre-employment or pre-apprenticeship and skill upgrading courses lasting three months or more, but does not include block release apprenticeship training, basic training for skill development, language training and job readiness training.

Education Level – Undergraduate, University

- Undergraduate, university includes bachelor's degrees, first professional degrees, and undergraduate diplomas and certificates.

Employed

- an individual who is working full time, part time, or for themselves.
- see **Employed (Full-time); (Full-year); (Part-time); (Part-year); and Self-employed**.

Employed (Full-time)

- an individual who works 30 hours or more per week in their main job.

Employed (Full-year)

- an individual who had a job, either full time, part time, or both, for the entire year.

Term	Definition
Employed (Part-time)	<ul style="list-style-type: none"> • an individual who works less than 30 hours per week in their main job.
Employed (Part-year)	<ul style="list-style-type: none"> • an individual who had a job, either full time, part time, or both, for only part of the year.
Employment Requirements	<ul style="list-style-type: none"> • the number of workers required by a specific industry to provide a certain quantity of goods or services. Synonymous with “demand.”
Experience	<ul style="list-style-type: none"> • the knowledge and skills acquired through the performance of a set of activities.
"Fair" rating	<ul style="list-style-type: none"> • rating for current and future outlooks in <i>Job Futures</i>. • “Fair” labour market outlooks are neither “Good” nor “Limited”. Jobs are more difficult to find; the probability of unemployment is higher; and wages and salaries are lower than in comparable occupational groups which are rated “Good.” On the other hand, jobs are easier to find; unemployment is less likely; and wages and salaries are higher than in comparable industrial or occupational groups which are rated “Limited.” • see <i>Understanding the Occupational Profiles in Part 1</i> and <i>Understanding the Field of Study Profiles in Part 2</i>.
Field of Study (Major)	<ul style="list-style-type: none"> • for purposes of analysis, the COPS group has lumped together certain programs of study. In <i>Job Futures</i> there are 34 trade/vocational fields of study, 42 at the community college and CEGEP level of study, 45 at the bachelor’s university level, and 45 at the master’s university level. • see <i>Program of Study</i>.
Field of Study (Broad)	<ul style="list-style-type: none"> • a grouping of major fields of study into nine broader areas of study including arts, business, education, engineering, humanities, life sciences, primary technologies, medicine and health, physical science, social sciences, and services. • see <i>Field of Study (Major)</i>.
Forecast	<ul style="list-style-type: none"> • in a <i>Job Futures</i> context, this term is used interchangeably with projection. • see <i>Projection</i>.
Forecast Period	<ul style="list-style-type: none"> • for the purposes of <i>Job Futures 2000</i>, the forecast period/horizon is 1999 to 2004.
Forecast Tool	<ul style="list-style-type: none"> • in the context of <i>Job Futures</i>, this term includes computer models, quantitative and qualitative information, expert knowledge, and a broad consultation network.
Foregone Earnings	<ul style="list-style-type: none"> • in <i>Job Futures</i>, potential earnings individuals give up when they continue their education instead of entering the workforce immediately after graduating from high school.
FOS	<ul style="list-style-type: none"> • see <i>Field of Study (Major)</i> or <i>(Broad)</i>. • see <i>Understanding the Field of Study Profiles</i>.
Future Outlook	<ul style="list-style-type: none"> • an estimation of the chances of finding work in the future for each occupation or field of study in <i>Job Futures</i>, based on past and current labour market conditions, and expert analysis of potential future trends for each occupation.
"Good" rating	<ul style="list-style-type: none"> • rating for current and future outlooks in <i>Job Futures</i>. • “Good” labour market outlooks usually mean that finding stable work is relatively easy and working conditions are attractive or improving. • see <i>Understanding the Occupational Profiles in Part 1</i> and <i>Understanding the Field of Study Profiles in Part 2</i>.
Goods Sector	<ul style="list-style-type: none"> • sector of the economy which includes industries involved in the transformation or processing of material or physical objects.

Term	Definition
Industry	<ul style="list-style-type: none"> a group of establishments who produce a common set of goods or services. For example, the retail trade industry includes all establishments who buy goods and resell them to the general public.
Industry Association	<ul style="list-style-type: none"> an organization of companies that represents the industry and acts as a common spokesperson for the membership.
Infrastructure	<ul style="list-style-type: none"> in <i>Job Futures</i>, used to describe the basic structural foundations of a society, i.e. roads, bridges, sewers, etc.
Job	<ul style="list-style-type: none"> a paid position that requires specific knowledge, skills, experience or training that allows a person to perform a variety of required tasks in an organization.
Knowledge-based Economy	<ul style="list-style-type: none"> an economy based on the development of information and dominated by specialized, sophisticated industries, such as computers, pharmaceuticals and consulting services.
Labour Force	<ul style="list-style-type: none"> represents the population 15 years of age and older across Canada that is employed or unemployed, but actively looking for work.
Labour Force Survey (LFS)	<ul style="list-style-type: none"> a monthly survey conducted across the 10 provinces in Canada by Statistics Canada of approximately 48,800 households to determine whether people above 14 years of age are working, not working, actively looking for work or no longer actively looking for work, i.e., not in the labour force.
Labour Market	<ul style="list-style-type: none"> the forum where buyers of labour, i.e., employers, and sellers of labour, i.e., employees, meet to satisfy job requirements within the Canadian economy or marketplace.
Labour Market Conditions	<ul style="list-style-type: none"> labour market conditions in a <i>Job Futures</i> context are defined as “Good,” “Fair” or “Limited”. “Good” labour market conditions usually mean that finding stable work is relatively easy and working conditions are attractive or improving. “Fair” labour market conditions are neither “Good” nor “Limited.” Jobs are more difficult to find; the probability of unemployment is higher; and wages and salaries are lower than in comparable occupational groups, which are rated “Good.” On the other hand, jobs are easier to find; unemployment is less likely; and wages and salaries are higher than in comparable industrial or occupational groups, which are, rated “Limited”. “Limited” labour market conditions mean that new entrants and re-entrants will have difficulty finding stable work, or that working conditions are not attractive or are deteriorating relative to those in other industries or occupations. For new entrants, such as school-leavers and immigrants, limited labour market conditions mean a low probability of finding permanent work and, if they find a job, relatively low pay. For employed workers, these relatively weak conditions will often mean a high probability of loss of work, a high probability of experiencing unemployment spells, and lower wages and salaries.
Labour Market Information (LMI)	<ul style="list-style-type: none"> quantitative and qualitative information on employment, wages, standards, qualifications, job openings, working conditions and other factors related to the labour market.
Labour Market Outcomes	<ul style="list-style-type: none"> in <i>Job Futures</i>, refers to the employment situation of individuals in any given occupation evaluated by factors such as earnings, access to jobs, mobility, and relative unemployment rates.
Level of Study	<ul style="list-style-type: none"> refers to the level of education, e.g., trade/vocational, college and university.
LFS	<ul style="list-style-type: none"> see Labour Force Survey.

Term	Definition
"Limited" rating	<ul style="list-style-type: none"> • rating for current and future outlooks in <i>Job Futures</i>. • "Limited" labour market outlooks mean that new entrants and re-entrants will have difficulty finding stable work, or that working conditions are not attractive or are deteriorating relative to those in other industries or occupations. For new entrants, such as school-leavers and immigrants, limited labour market outlooks mean a low probability of finding permanent work and, if they find a job, relatively low pay. For employed workers, these relatively weak conditions will often mean a high probability of loss of work, a high probability of experiencing unemployment spells, and lower wages and salaries. • see <i>Understanding the Occupational Profiles in Part 1</i> and <i>Understanding the Field of Study Profiles in Part 2</i>.
LMI	<ul style="list-style-type: none"> • see Labour Market Information.
Master's Degree	<ul style="list-style-type: none"> • post-graduate level of education attained after the successful completion of a Bachelor's degree at the university level. May take from one to two years to complete, depending on undergraduate qualifications and the Master's degree sought.
Median	<ul style="list-style-type: none"> • the middle value of a series of values arranged in order of size.
Mobility	<ul style="list-style-type: none"> • see Occupational Mobility.
National Graduate Survey (NGS)	<ul style="list-style-type: none"> • frequent survey of post-secondary school graduates conducted by Statistics Canada in which certain questions are asked of graduates two and five years after graduation that link education and training with current labour market status. Two-year surveys were conducted in 1984, 1988, 1992 and 1997. Five-year follow-up surveys were conducted in 1987, 1991 and 1997.
National Occupational Classification (NOC)	<ul style="list-style-type: none"> • classifies all occupations in Canada. This system of coding is the basis for the organization of occupations in <i>Job Futures</i>. • see <i>Understanding the Occupational Profiles in Part 1</i>.
Net Benefits	<ul style="list-style-type: none"> • in the context of <i>Job Futures</i>, it refers to the positive difference between the total benefits and total costs relative to career or educational choices.
New Job Openings	<ul style="list-style-type: none"> • the total number of new jobs due to changing economic activity and positions becoming vacant because of death, retirement, occupational mobility, and temporary labour force withdrawal.
New Job Seekers	<ul style="list-style-type: none"> • the total number of new job seekers entering the labour force. This number is the sum of recent graduates from the formal post-secondary school system, recent immigrants, and people re-entering the labour force after a temporary withdrawal, e.g., child bearing or rearing, educational leave, discouragement.
NGS	<ul style="list-style-type: none"> • see National Graduate Survey.
NOC	<ul style="list-style-type: none"> • see National Occupational Classification.
Non-completers	<ul style="list-style-type: none"> • individuals who have recently left the school system without graduating.
Occupation	<ul style="list-style-type: none"> • a collection of jobs or types of work sharing similar skills and responsibilities.
Occupational Group	<ul style="list-style-type: none"> • a group of similar occupations found in various industries or organizations. In <i>Job Futures</i>, an occupational group (3 digit NOC code) is an aggregate grouping of two or more occupations (4 digit NOC code). • see <i>Understanding the Occupational Profiles in Part 1</i>.

Term

Definition

Occupational Mobility

- when, for whatever reason, an individual moves from one job to another without experiencing an extended period of unemployment, e.g., worker to supervisor or manager, or is between occupations, e.g., bank teller to financial advisor.

Outsourcing

- when an organization hires someone from outside to perform a predefined task, for an agreed upon fee, in a set period of time. Synonymous with contracting-out.

Post-graduate

- continuing with some level of education after the completion of a university degree program, e.g. teaching certificate, lawyer, doctor, etc.

Post-secondary

- continuing with some level of education after completion of high school.

Prerequisites

- the previous education, training, experience, individual abilities, skills, or qualifications required for a person to undertake a particular program of study.

Primary Industries

- industries concerned with obtaining or using raw materials, for example wood or fish.

Probability

- the likelihood or chances of something happening.

Profession

- an occupation that requires specialized skills and advanced training.

Professional Association

- an organization that represents members of a professional occupation and may set standards for education/ training or professional designation.

Program of Study

- a detailed listing of areas of study developed by Statistics Canada. Encompasses some 150 areas of study at the university level and about 300 at the community college, Cégep, and trade/vocational levels of study.

Projections

- a quantitatively based view of the future economy derived through the use of historical data, computer models, expert knowledge and consultations. In reference to *Job Futures*, the emphasis is on future labour market conditions. Synonymous with forecast.

Pure Sciences

- sciences dependent on deductions from demonstrated truths, or ones studied from a theoretical perspective without regard to practical applications, such as mathematics.

Rate of Return to Education

- how much investment in education will benefit individuals in terms of earnings in the long term.

Red Seal

- a nationally registered trademark symbol adopted for the Interprovincial Standards Program to signify interprovincial qualification of tradespersons at the journey person level. It is affixed to provincial and territorial *Certificates of Apprenticeship and Qualification* of those apprentices and tradespersons who have met the national standard in a Red Seal trade. The Red Seal is a passport that allows the holder to work anywhere in Canada without having to write further examinations.

Re-entrants

- individuals who are returning to the labour market after an absence.

School Leavers

- individuals who have recently left the school system. Includes graduates and non-completers.
- **see Non-completers.**

Secondary Industries

- industries concerned with the transformation of raw materials into goods, for example manufacturing, construction or utilities.

Sector

- in some instances, this term may be used to describe a grouping of industries or a grouping of occupations.
- **see Industry.**

Term	Definition
Sector Council	<ul style="list-style-type: none"> an organization that represents an industrial sector in terms of occupations, productivity, and viability of the industry.
Self-employed	<ul style="list-style-type: none"> workers who work for themselves at their main job.
Skill Level	<ul style="list-style-type: none"> a phrase used to classify occupations in the NOC by the level of training, education or experience required to perform an occupation. see <i>Understanding the Occupational Profiles in Part 1</i>.
Skill Type	<ul style="list-style-type: none"> a term used to classify occupations in the NOC by the industry or sector in which the majority of the occupations fall. see <i>Understanding the Occupational Profiles in Part 1</i>.
Supply	<ul style="list-style-type: none"> in the context of <i>Job Futures</i>, this term represents the number of individuals offering their services to employers, including new entrants to the labour market as well as those with or without a job.
Tertiary Industries	<ul style="list-style-type: none"> refers to service industries such as retail, health, finance, etc.
Trade/Vocational	<ul style="list-style-type: none"> higher level of education that may or may not require the completion of high school and may involve on-the-job training as part of the course requirements.
Training	<ul style="list-style-type: none"> the acquisition of knowledge or skills by the performance of tasks under the direct supervision of a person who has already acquired the knowledge or skill. Training can occur on the job or in an educational program.
Trend	<ul style="list-style-type: none"> an ongoing change in a set of observations taken over time.
Unemployed	<ul style="list-style-type: none"> when an individual is not employed, is looking for work, and is available for work.
Unemployment Rate	<ul style="list-style-type: none"> the percentage of individuals who are actively looking for work and are able to work but do not have a job, i.e., the number of unemployed individuals divided by the total number of people 15 years of age and older who have a job or are actively looking for work multiplied by 100, expressed as a percentage. in the context of <i>Part 1 of Job Futures</i>, the unemployment rate excludes full-time students who may be actively looking for work, or who are employed, and includes only the unemployed who had a job in the past 12-month period. This allows the unemployment rate shown in <i>Job Futures</i> to be calculated for a particular occupation. However, this rate is lower than the published national unemployment rate due to these exclusions. in the context of <i>Part 2 of Job Futures</i>, the unemployment rate is the percentage of graduates who are actively looking for work and are able to work but do not have a job. see <i>Understanding the Occupational Profiles in Part 1</i> and <i>Understanding the Field of Study Profiles in Part 2</i>.
University	<ul style="list-style-type: none"> institution of higher education beyond the high school level, offering degree and certificate programs of study from one to four years in length, as well as post-graduate studies.
Upskilling	<ul style="list-style-type: none"> to study or train to increase one's level of skills.

Job Futures 2000

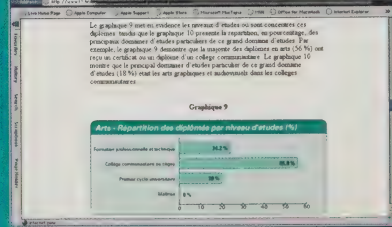
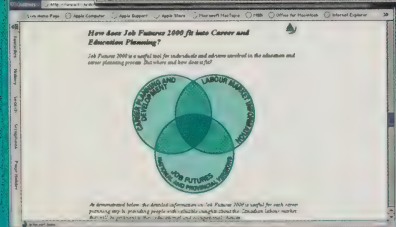
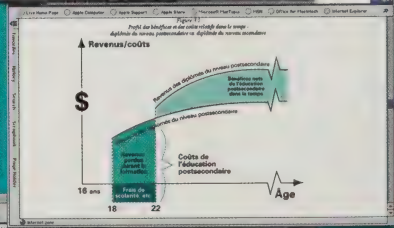
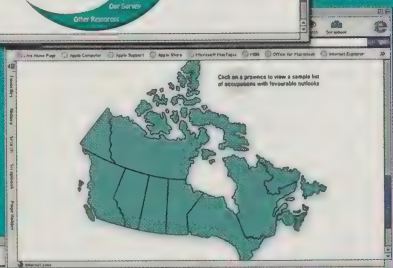
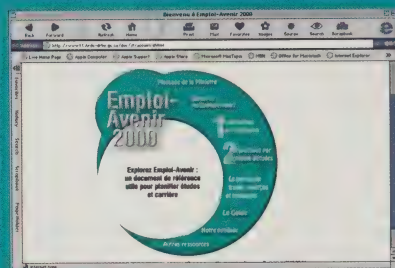
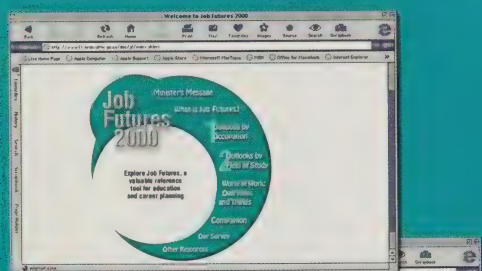
Get the latest facts and figures on today's careers and see what's in store for the future! The all new national web site is waiting for you to search and compare potential careers and educational paths that suit your skills and aptitudes!

www.hrdc-drhc.gc.ca/JobFutures

Emploi-Avenir 2000

Tout sur les carrières d'aujourd'hui et sur ce que l'avenir vous réserve! Venez rechercher et comparer, sur notre nouveau site Web national, les possibilités et les cheminements de carrière et d'études qui conviennent à vos compétences et aptitudes!

www.hrdc-drhc.gc.ca/EmploiAvenir



occupations
practitioners

world of work
counsellors

job prospects
teachers
training

Job Futures 2000

**Outlooks by
Occupation**

job seekers

earnings
students
education

Acknowledgements

The producers of *Job Futures 2000* would like to thank all of the private and public sector experts from professional, trade and business associations, unions, sector councils and educational groups who reviewed profiles related to occupational group(s) within their area of expertise and provided valuable comments on the text and data in *Part 1, Outlooks by Occupation*. Every effort was made to incorporate these comments, as this feedback provides validation and enrichment to the analysis undertaken by the COPS (Canadian Occupational Projection System) group, Applied Research Branch, HRDC. However, these organizations cannot be held responsible for the information contained herein or for any errors that *Job Futures 2000* may contain. Those organizations consulted who agreed to be included are listed in the appendix.



Contact Information

General enquiries about *Job Futures 2000* can be sent through our website:
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MESSAGE FROM THE MINISTER OF HUMAN RESOURCES DEVELOPMENT CANADA

Welcome to *Job Futures 2000*, a guide to the jobs of tomorrow for students, parents, job seekers, teachers, career and education counselors.

Deciding on a career path has never been easy. It has always involved difficult choices. Preferences and aptitudes must be matched with education and training choices. As we move into the new millenium, we also want to keep the future job market in mind.

The Government of Canada is strongly committed to providing young Canadians with quality career information, to supporting all Canadians in their career and education choices, and to offering the best labour market information through such endeavours as *Job Futures*.

Available in print and Internet formats, *Job Futures 2000* profiles current and future labour market conditions in Canada by occupation and field of study. New labour market information has been added to assist education and training choices. *Job Futures 2000* is also more accessible and user-friendly. State-of-the-art, dynamic web technology allows users of the web version to customize requests for information.

I believe you will find *Job Futures 2000* to be an indispensable resource in helping you make informed choices.

A handwritten signature in cursive script that reads "Jane Stewart".

Jane Stewart

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Occupational Profiles

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144	Administrative Support Clerks	84
843	Agriculture and Horticulture Workers	380
2271	Air Pilots, Flight Engineers and Flying Instructors	130
7315	Aircraft Mechanics and Aircraft Inspectors	328
523	Announcers and Other Performers	228
215	Architects, Urban Planners and Land Surveyors	106
341	Assisting Occupations in Support of Health Services	170
525	Athletes, Coaches, Referees and Related Occupations	234
111	Auditors, Accountants and Investment Professionals	40
B		
1231	Bookkeepers	60
7412	Bus Drivers, Subway Operators and Other Transit Operators	350
625	Butchers and Bakers	250
C		
7272	Cabinetmakers	316
7271	Carpenters	314
727	Carpenters and Cabinetmakers	312
661	Cashiers	274
923	Central Control and Process Operators in Manufacturing and Processing	390
624	Chefs and Cooks	248
647	Childcare and Home Support Workers	268
2131	Civil Engineers	98
213	Civil, Mechanical, Electrical and Chemical Engineers	96
666	Cleaners	284
141	Clerical Occupations, General Office Skills	70
121	Clerical Supervisors	50
413	College and Other Vocational Instructors	176
4212	Community and Social Service Workers	208
1421	Computer Operators	74
2163	Computer Programmers	112
2162	Computer Systems Analysts	110
0711	Construction Managers	32
7311	Construction Millwrights and Industrial Mechanics (Except Textile)	324
721	Contractors and Supervisors, Trades and Related Workers	290
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737	Crane Operators, Drillers and Blasters	342
513	Creative and Performing Artists	222
524	Creative Designers and Craftspersons	230
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1422	Data Entry Clerks	76
3222	Dental Hygienists and Dental Therapists	164
3113	Dentists	138
2253	Drafting Technologists and Technicians	124
E		
6470	Early Childhood Educators and Assistants	270
4163	Economic Development Officers and Marketing Researchers and Consultants	200
5122	Editors	218
4166	Education Policy Researchers, Consultants and Program Officers	202
2133	Electrical and Electronics Engineers	102

724	Electrical Trades and Telecommunication Occupations	300
7241	Electricians (Except Industrial and Power System)	302
9483	Electronics Assemblers, Fabricators, Inspectors and Testers	410
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4142	Elementary School and Kindergarten Teachers	182
F		
072	Facility Operation and Maintenance Managers	34
4153	Family, Marriage and Other Related Counsellors	192
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1111	Financial Auditors and Accountants	42
0111	Financial Managers	6
826	Fishing Vessel Masters and Skippers and Fishermen/women	374
664	Food Counter Attendants and Kitchen Helpers	280
G		
3112	General Practitioners and Family Physicians	136
5241	Graphic Designers and Illustrating Artists	232
H		
4160	Health and Social Policy Researchers, Consultants and Program Officers	196
742	Heavy Equipment Operators	352
7312	Heavy-Duty Equipment Mechanics	326
112	Human Resources and Business Service Professionals	44
0112	Human Resources Managers	8
I		
7242	Industrial Electricians	304
4215	Instructors and Teachers of Disabled Persons	210
1233	Insurance Adjusters and Claims Examiners	62
6231	Insurance Agents and Brokers	242
623	Insurance and Real Estate Sales Occupations and Buyers	240
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411	Judges, Lawyers and Quebec Notaries	172
L		
961	Labourers in Processing, Manufacturing and Utilities	422
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001	Legislators and Senior Management	2
511	Librarians, Archivists, Conservators and Curators	212
145	Library, Correspondence and Related Information Clerks	86
212	Life Science Professionals	94
842	Logging and Forestry Workers	378
824	Logging Machinery Operators	370
745	Longshore Workers and Material Handlers	358
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942	Machine Operators and Related Workers in Chemical, Plastic and Rubber Processing	394
945	Machine Operators and Related Workers in Fabric and Leather Products Manufacturing	400
946	Machine Operators and Related Workers in Food and Beverage Processing	402
941	Machine Operators and Related Workers in Metal and Mineral Products Processing	392
943	Machine Operators and Related Workers in Pulp and Paper Production and Wood Processing	396
944	Machine Operators and Related Workers in Textile Processing	398
731	Machinery and Transportation Equipment Mechanics (except Motor Vehicle)	322
9511	Machining Tool Operators	418
7231	Machinists and Machining and Tooling Inspectors	296
723	Machinists and Related Occupations	294
146	Mail and Message Distribution Occupations	88
051	Managers in Art, Culture, Recreation and Sport	20
013	Managers in Communication (Except Broadcasting)	12
071	Managers in Construction and Transportation	30
021	Managers in Engineering, Architecture, Science and Information Systems	14
012	Managers in Financial and Business Services	10
063	Managers in Food Service and Accommodation	26

031	Managers in Health, Education, Social and Community Services	16
091	Managers in Manufacturing and Utilities	38
065	Managers in Other Services	28
081	Managers in Primary Production (Except Agriculture)	36
041	Managers in Public Administration	18
062	Managers in Retail Trade	24
728	Masonry and Plastering Trades	318
216	Mathematicians, Systems Analysts and Computer Programmers	108
2132	Mechanical Engineers	100
948	Mechanical, Electrical and Electronics Assemblers	406
3212	Medical Laboratory Technicians	158
3211	Medical Laboratory Technologists and Pathologists' Assistants	156
3215	Medical Radiation Technologists	160
1243	Medical Secretaries	68
321	Medical Technologists and Technicians (Except Dental Health)	154
726	Metal Forming, Shaping and Erecting Occupations	308
9514	Metalworking Machine Operators	420
841	Mine Service Workers and Operators in Oil and Gas Drilling	376
741	Motor Vehicle and Transit Drivers	346
9482	Motor Vehicle Assemblers, Inspectors and Testers	408
732	Motor Vehicle Mechanics	330
7321	Motor Vehicle Mechanics, Technicians and Mechanical Repairers	332
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949	Other Assembly and Related Occupations	412
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729	Other Construction Trades	320
668	Other Elemental Service Occupations	288
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844	Other Fishing and Trapping Occupations	382
744	Other Installers, Repairers and Servicers	356
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648	Other Occupations in Personal Service	272
662	Other Sales and Related Occupations	276
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725	Plumbers, Pipefitters and Gas Fitters	306
626	Police Officers and Firefighters	252
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861	Primary Production Labourers	384
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738	Printing Press Operators, Commercial Divers and Other Trades and Related Occupations, n.e.c.	344

1122	Professional Occupations in Business Services to Management	48
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762	Public Works and Other Labourers, n.e.c.	362
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6232	Real Estate Agents and Salespersons	244
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621	Sales and Service Supervisors	236
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4143	School and Guidance Counsellors	184
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665	Security Guards and Related Occupations	282
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4152	Social Workers	190
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0111	Financial Managers	6
0112	Human Resources Managers	8
012	Managers in Financial and Business Services	10
013	Managers in Communication (Except Broadcasting)	12

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Technical, Paraprofessional and Skilled Occupations

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523	Announcers and Other Performers	228
524	Creative Designers and Craftspersons	232
5241	Graphic Designers and Illustrating Artists	232
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SALES AND SERVICE OCCUPATIONS*Management Occupations*

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062	Managers in Retail Trade	24
063	Managers in Food Service and Accommodation	26
065	Managers in Other Services	28

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621	Sales and Service Supervisors	236
622	Technical Sales Specialists, Wholesale Trade	238
623	Insurance and Real Estate Sales Occupations and Buyers	240
6231	Insurance Agents and Brokers	242
6232	Real Estate Agents and Salespersons	244
6233	Retail and Wholesale Buyers	246
624	Chefs and Cooks	248
625	Butchers and Bakers	250
626	Police Officers and Firefighters	252
627	Technical Occupations in Personal Service	254

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642	Retail Salespersons and Sales Clerks	258
643	Occupations in Travel and Accommodation	260
6431	Travel Counsellors	262
644	Tour and Recreational Guides	264
645	Occupations in Food and Beverage Service	266
647	Childcare and Home Support Workers	268
6470	Early Childhood Educators and Assistants	270
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661	Cashiers	274
662	Other Sales and Related Occupations	276
663	Elemental Medical and Hospital Assistants	278
664	Food Counter Attendants and Kitchen Helpers	280
665	Security Guards and Related Occupations	282
666	Cleaners	284
667	Other Attendants in Travel, Accommodation and Recreation	286
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0711	Construction Managers	32
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Technical, Paraprofessional and Skilled Occupations

721	Contractors and Supervisors, Trades and Related Workers	290
722	Supervisors, Railway and Motor Transportation Occupations	292
723	Machinists and Related Occupations	294
7231	Machinists and Machining and Tooling Inspectors	296
7232	Tool and Die Makers	298
724	Electrical Trades and Telecommunication Occupations	300
7241	Electricians (Except Industrial and Power System)	302
7242	Industrial Electricians	304
725	Plumbers, Pipefitters and Gas Fitters	306
726	Metal Forming, Shaping and Erecting Occupations	308
7261	Sheet Metal Workers	310
727	Carpenters and Cabinetmakers	312
7271	Carpenters	314
7272	Cabinetmakers	316
728	Masonry and Plastering Trades	318
729	Other Construction Trades	320
731	Machinery and Transportation Equipment Mechanics (except Motor Vehicle)	322
7311	Construction Millwrights and Industrial Mechanics (Except Textile)	324
7312	Heavy-Duty Equipment Mechanics	326
7315	Aircraft Mechanics and Aircraft Inspectors	328
732	Motor Vehicle Mechanics	330
7321	Motor Vehicle Mechanics, Technicians and Mechanical Repairers	332
733	Other Mechanics	334
734	Upholsterers, Tailors, Shoe Repairers, Jewellers and Related Occupations	336
735	Stationary Engineers and Power Station and System Operators	338
736	Train Crew Operating Occupations	340
737	Crane Operators, Drillers and Blasters	342
738	Printing Press Operators, Commercial Divers and Other Trades and Related Occupations, n.e.c.	344

Intermediate Occupations

741	Motor Vehicle and Transit Drivers	346
7411	Truck Drivers	348
7412	Bus Drivers, Subway Operators and Other Transit Operators	350
742	Heavy Equipment Operators	352
743	Other Transport Equipment Operators and Related Workers	354
744	Other Installers, Repairers and Servicers	356
745	Longshore Workers and Material Handlers	358

Labouring and Elemental Occupations

761	Trades Helpers and Labourers	360
762	Public Works and Other Labourers, n.e.c.	362

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Technical, Paraprofessional and Skilled Occupations

821	Supervisors, Logging and Forestry	364
822	Supervisors, Mining, Oil and Gas	366
823	Underground Miners, Oil and Gas Drillers and Related Workers	368
824	Logging Machinery Operators	370
825	Contractors, Operators and Supervisors in Agriculture, Horticulture and Aquaculture	372
826	Fishing Vessel Masters and Skippers and Fishermen/women	374

Intermediate Occupations

841	Mine Service Workers and Operators in Oil and Gas Drilling	376
842	Logging and Forestry Workers	378
843	Agriculture and Horticulture Workers	380
844	Other Fishing and Trapping Occupations	382

Labouring and Elemental Occupations

861	Primary Production Labourers	384
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OCCUPATIONS IN PROCESSING, MANUFACTURING AND UTILITIES

Management Occupations

091	Managers in Manufacturing and Utilities	38
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Technical, Paraprofessional and Skilled Occupations

921	Supervisors, Processing Occupations	386
922	Supervisors, Assembly and Fabrication	388
923	Central Control and Process Operators in Manufacturing and Processing	390

Intermediate Occupations

941	Machine Operators and Related Workers in Metal and Mineral Products Processing	392
942	Machine Operators and Related Workers in Chemical, Plastic and Rubber Processing	394
943	Machine Operators and Related Workers in Pulp and Paper Production and Wood Processing	396
944	Machine Operators and Related Workers in Textile Processing	398
945	Machine Operators and Related Workers in Fabric and Leather Products Manufacturing	400
946	Machine Operators and Related Workers in Food and Beverage Processing	402
947	Printing Machine Operators and Related Occupations	404
948	Mechanical, Electrical and Electronics Assemblers	406
9482	Motor Vehicle Assemblers, Inspectors and Testers	408
9483	Electronics Assemblers, Fabricators, Inspectors and Testers	410
949	Other Assembly and Related Occupations	412
951	Welders and Machining, Metalworking, Woodworking and Related Machine Operators	414
9510	Welders and Soldering Machine Operators	416
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Labouring and Elemental Occupations

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0112	Human Resources Managers	8
012	Managers in Financial and Business Services	10
013	Managers in Communication (Except Broadcasting)	12
021	Managers in Engineering, Architecture, Science and Information Systems	14
031	Managers in Health, Education, Social and Community Services	16
041	Managers in Public Administration	18
051	Managers in Art, Culture, Recreation and Sport	20
061	Sales, Marketing and Advertising Managers	22
062	Managers in Retail Trade	24
063	Managers in Food Service and Accommodation	26
065	Managers in Other Services	28
071	Managers in Construction and Transportation	30
0711	Construction Managers	32
072	Facility Operation and Maintenance Managers	34
081	Managers in Primary Production (Except Agriculture)	36
091	Managers in Manufacturing and Utilities	38

Professional Occupations (Skill Level A)

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1111	Financial Auditors and Accountants	42
112	Human Resources and Business Service Professionals	44
1121	Specialists in Human Resources	46
1122	Professional Occupations in Business Services to Management	48
211	Physical Science Professionals	92
212	Life Science Professionals	94
213	Civil, Mechanical, Electrical and Chemical Engineers	96
2131	Civil Engineers	98
2132	Mechanical Engineers	100
2133	Electrical and Electronics Engineers	102
214	Other Engineers	104
215	Architects, Urban Planners and Land Surveyors	106
216	Mathematicians, Systems Analysts and Computer Programmers	108
2162	Computer Systems Analysts	110
2163	Computer Programmers	112
311	Physicians, Dentists and Veterinarians	132
3111	Specialist Physicians	134
3112	General Practitioners and Family Physicians	136
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412	University Professors and Assistants	174
413	College and Other Vocational Instructors	176
414	Secondary and Elementary School Teachers and Counsellors	178
4141	Secondary School Teachers	180
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415	Psychologists, Social Workers, Counsellors, Clergy and Probation Officers	186
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416	Policy and Program Officers, Researchers and Consultants	194
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4161	Natural and Applied Science Policy Researchers, Consultants and Program Officers	198
4163	Economic Development Officers and Marketing Researchers and Consultants	200
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511	Librarians, Archivists, Conservators and Curators	212
512	Writing, Translating and Public Relations Professionals	214
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5122	Editors	218
5124	Professional Occupations in Public Relations and Communications	220
513	Creative and Performing Artists	222

Technical, Paraprofessional and Skilled Occupations (Skill Level B)

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122	Administrative and Regulatory Occupations	52
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1225	Purchasing Agents and Officers	56
123	Finance and Insurance Administrative Occupations	58
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124	Secretaries, Records and Transcriptionists	64
1242	Legal Secretaries	66
1243	Medical Secretaries	68
221	Technical Occupations in Physical Sciences	114
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223	Technical Occupations in Civil, Mechanical and Industrial Engineering	118
224	Technical Occupations in Electronics and Electrical Engineering	120
225	Technical Occupations in Architecture, Drafting, Surveying and Mapping	122
2253	Drafting Technologists and Technicians	124
226	Other Technical Inspectors and Regulatory Officers	126
227	Transportation Officers and Controllers	128
2271	Air Pilots, Flight Engineers and Flying Instructors	130
321	Medical Technologists and Technicians (Except Dental Health)	154
3211	Medical Laboratory Technologists and Pathologists' Assistants	156
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3233	Registered Nursing Assistants (Licensed/Registered Practical Nurses)	168
421	Paralegals, Social Services Workers and Occupations in Education and Religion, n.e.c.	204
4211	Paralegal and Related Occupations	206

4212	Community and Social Service Workers	208
4215	Instructors and Teachers of Disabled Persons	210
521	Technical Occupations in Libraries, Archives, Museums and Galleries	224
522	Photographers, Graphic Arts Technicians and Technical Occupations in Motion Pictures, Broadcasting and the Performing Arts	226
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525	Athletes, Coaches, Referees and Related Occupations	234
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622	Technical Sales Specialists, Wholesale Trade	238
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6233	Retail and Wholesale Buyers	246
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723	Machinists and Related Occupations	294
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7232	Tool and Die Makers	298
724	Electrical Trades and Telecommunication Occupations	300
7241	Electricians (Except Industrial and Power System)	302
7242	Industrial Electricians	304
725	Plumbers, Pipefitters and Gas Fitters	306
726	Metal Forming, Shaping and Erecting Occupations	308
7261	Sheet Metal Workers	310
727	Carpenters and Cabinetmakers	312
7271	Carpenters	314
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728	Masonry and Plastering Trades	318
729	Other Construction Trades	320
821	Supervisors, Logging and Forestry	364
822	Supervisors, Mining, Oil and Gas	366
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824	Logging Machinery Operators	370
825	Contractors, Operators and Supervisors in Agriculture, Horticulture and Aquaculture	372
826	Fishing Vessel Masters and Skippers and Fishermen/women	374
921	Supervisors, Processing Occupations	386
922	Supervisors, Assembly and Fabrication	388
923	Central Control and Process Operators in Manufacturing and Processing	390
731	Machinery and Transportation Equipment Mechanics (except Motor Vehicle)	322
7311	Construction Millwrights and Industrial Mechanics (Except Textile)	324
7312	Heavy-Duty Equipment Mechanics	326
7315	Aircraft Mechanics and Aircraft Inspectors	328
732	Motor Vehicle Mechanics	330
7321	Motor Vehicle Mechanics, Technicians and Mechanical Repairers	332
733	Other Mechanics	334
734	Upholsterers, Tailors, Shoe Repairers, Jewellers and Related Occupations	336
735	Stationary Engineers and Power Station and System Operators	338
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315	Nurse Supervisors and Registered Nurses	152
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5124	Professional Occupations in Public Relations and Communications	220
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Technical, Paraprofessional and Skilled Occupations (Skill Level B)

121	Clerical Supervisors	50
122	Administrative and Regulatory Occupations	52
1221	Administrative Officers	54
1225	Purchasing Agents and Officers	56
123	Finance and Insurance Administrative Occupations	58
1231	Bookkeepers	60
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6232	Real Estate Agents and Salespersons	244
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723	Machinists and Related Occupations	294
7231	Machinists and Machining and Tooling Inspectors	296
7232	Tool and Die Makers	298
724	Electrical Trades and Telecommunication Occupations	300
7241	Electricians (Except Industrial and Power System)	302
7242	Industrial Electricians	304
725	Plumbers, Pipefitters and Gas Fitters	306
726	Metal Forming, Shaping and Erecting Occupations	308
7261	Sheet Metal Workers	310
727	Carpenters and Cabinetmakers	312
7271	Carpenters	314
7272	Cabinetmakers	316
728	Masonry and Plastering Trades	318
729	Other Construction Trades	320
821	Supervisors, Logging and Forestry	364
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731	Machinery and Transportation Equipment Mechanics (except Motor Vehicle)	322
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7312	Heavy-Duty Equipment Mechanics	326
7315	Aircraft Mechanics and Aircraft Inspectors	328
732	Motor Vehicle Mechanics	330
7321	Motor Vehicle Mechanics, Technicians and Mechanical Repairers	332
733	Other Mechanics	334
734	Upholsterers, Tailors, Shoe Repairers, Jewellers and Related Occupations	336
735	Stationary Engineers and Power Station and System Operators	338
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1422	Data Entry Clerks	76
143	Finance and Insurance Clerks	78
1431	Accounting and Related Clerks	80
1433	Tellers, Financial Services	82
144	Administrative Support Clerks	84
145	Library, Correspondence and Related Information Clerks	86
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341	Assisting Occupations in Support of Health Services	170
641	Sales Representatives, Wholesale Trade	256
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842	Logging and Forestry Workers	378
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943	Machine Operators and Related Workers in Pulp and Paper Production and Wood Processing	396
944	Machine Operators and Related Workers in Textile Processing	398
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946	Machine Operators and Related Workers in Food and Beverage Processing	402
947	Printing Machine Operators and Related Occupations	404
948	Mechanical, Electrical and Electronics Assemblers	406
9482	Motor Vehicle Assemblers, Inspectors and Testers	408
9483	Electronics Assemblers, Fabricators, Inspectors and Testers	410
949	Other Assembly and Related Occupations	412
951	Welders and Machining, Metalworking, Woodworking and Related Machine Operators	414
9510	Welders and Soldering Machine Operators	416
9511	Machining Tool Operators	418
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662	Other Sales and Related Occupations	276
663	Elemental Medical and Hospital Assistants	278
664	Food Counter Attendants and Kitchen Helpers	280
665	Security Guards and Related Occupations	282
666	Cleaners	284
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Job Futures 2000

What is Job Futures 2000?

The national edition of *Job Futures 2000* is a suite of products that includes:

- World of Work: Overviews and Trends;
- Part 1: Outlooks by Occupation;
- Part 2: Outlooks by Field of Study; and
- the Job Futures Companion.

Job Futures 2000 provides Canadians with the latest information available about the world of work—information that is important for anyone in the process of making decisions, or advising others about making decisions, related to career or educational planning. It includes:

- overviews of the labour market and general economic trends;
- detailed information on all occupational groups and post-secondary fields of study;
- current and future labour market conditions; and
- prospects for finding work in the Canadian workforce.

The data, analysis and national outlooks contained in *Job Futures 2000* are produced by a team of HRDC specialists who base their projections on a set of sophisticated economic models and forecasting tools, including the Canadian Occupational Projection System (COPS) of the Applied Research Branch of Human Resources Development Canada (HRDC). While no one can foresee exactly how the future will unfold, particularly over a

horizon of many years in a rapidly changing labour market, these projections represent the best judgement of the HRDC specialists in consultation with private and public sector experts.

Job Futures 2000 is only one of many sources of labour market information for Canadians. Other complementary material is available. For example, most provincial governments and regional offices of HRDC also produce, often in collaboration, provincial occupational outlooks. A list of these and other related publications can be found in the section, "For More Information."

Who can use Job Futures 2000?

Job Futures 2000 is useful for all Canadians interested in the current and future labour market and the links between education and the world of work. They include:

- *career/education professionals* providing advice to their clients on career choices, career changes or prospects for finding work;
- *teachers* providing information to their students on occupations, the labour market or for career and education planning;
- *parents* who wish to help their children plan for the future;
- *students* making educational and career decisions or who want to know more about work prospects in their field of study;
- *workers* thinking about upgrading their skills or making a career change;
- *unemployed* persons exploring job prospects and training opportunities; and
- *individuals* re-entering the labour market.

What is included in each part of the Job Futures 2000 suite?

World of Work: Overviews and Trends —new in Job Futures 2000

This new part of *Job Futures 2000* addresses topics crucial to understanding today's labour market. It is designed to help users become informed about a variety of factors so that they can make, or advise others in making, good career and education decisions. It examines broad economic and labour market issues as well as providing detailed information on key labour market indicators and the benefits and costs that may be associated with different educational or occupational paths. Topics included are:

- **Overview of Outlooks by Occupation:** presents overall trends and average ratings (good, fair or limited) related to current and future labour market conditions by skill level—amount of education and training required to work in an occupation, and by skill type—the broad industry category in which occupations are concentrated. Exceptions are listed and briefly explained.
- **Overview of Outlooks by Field of Study:** summarizes the overall average ratings of current and future labour market conditions for recent post-secondary school graduates, spanning four educational levels and nine broad fields of study. Exceptions are listed and briefly explained.
- **Emerging Sectors and Occupations:** provides a synopsis of some new and growing sectors and occupations, and describes the skills that job seekers in these areas may need to acquire. These occupations are in addition to the more traditional occupations detailed in *Part 1* and *Part 2*.
- **Other Key Factors to Consider:** provides an assessment of several other economic indicators that people may want to take into account when making education or career choices. The analysis reveals that an individual's labour market outcomes generally improve if they have more education and that these results can vary by person, occupation, field of study, region, and over time. The outcomes evaluated include lifetime earnings by occupation, net benefits to investing in post-secondary education based on various levels and fields of study, factors related to transitions in and out of the labour force, and relative unemployment rates.
- **Across Canada:** presents a sample of occupations with favourable outlooks over the next few years for Canada as well as for each province.
- **Occupational profiles:** summarizes 211 occupational groups, covering the entire Canadian labour market, except military occupations. The order of occupations is based on HRDC's *National Occupational Classification* (NOC) which organizes work according to *skill levels*—levels of education and training, and *skill types*—type of work performed by industry group. Each occupational profile includes information on:
 - job duties and responsibilities;
 - the level and type of education, training and experience required to find work in that occupational group;
 - key labour market characteristics of the group, such as recent employment trends; distribution of workers by age; share of people working part-time, full-time, and self-employed;
 - key sectors where workers in the group are employed;
 - a range of earnings information;
 - relative unemployment rates;
 - current prospects of finding work; and
 - prospects of finding work over the five years to 2004.
- **Appendices:**
 - Glossary:** defines terms and phrases—new in *Job Futures 2000*.
 - List of Organizations:** provides information on private and public sector organizations consulted in the preparation of the profiles.
 - Detailed Index of Occupational Titles:** provides a list of all occupational titles found in the headings and text of the profiles.

It is strongly recommended that users refer to the chapter, "Understanding the Occupational Profiles," to make the best use of the information contained in the profiles.

Part 1: Outlooks by Occupation

This part of the *Job Futures 2000* suite offers students and job seekers important occupational information that can help them make informed decisions about possible career routes. It provides a "snapshot" of each occupational group, designed with graphics as well as text, and includes detailed descriptions about current labour market conditions and what may impact or change these conditions in the coming years. *Part 1* includes the following sections:

- **Indexes:** organizes the occupational profiles alphabetically, by broad industrial groups (NOC skill type), and by education and training levels (NOC skill level).
- **Understanding the Occupational Profiles:** provides a detailed explanation of each section of the profiles and how to interpret the information and data for career planning purposes, as well as describing the underlying methodologies and data sources.
- **For More Information:** provides a list of related publications or Web sites.

Part 2: Outlooks by Field of Study

This part of the *Job Futures 2000* suite is designed to help students and people seeking to upgrade their skills make informed educational and training choices. Each field of study provides detailed information on that particular educational/ training route and describes the work experiences of recent graduates. *Part 2* includes the following sections:

- **Indexes:** organizes the field of study profiles alphabetically, by field of study, and by level of education.
- **Understanding the Field of Study Profiles:** offers a detailed explanation of each section of the profiles and how to interpret the information and data for career planning purposes, as well as describing the underlying methodologies and data sources.

- **For More Information:** provides a list of related publications or Web sites.
- **Field of Study Profiles:** summarizes 155 fields of study that include all Canadian post-secondary programs, including trade and vocational schools, colleges, and universities. The classification of the fields of study is based on Statistic Canada's student information system, with a coding structure adapted by COPS. Each field of study profile includes information on:
 - content of the program and its availability by province;
 - prerequisites;
 - key occupations in which recent graduates found work;
 - how these graduates feel about their educational choices and their jobs;
 - key labour market characteristics of recent graduates, such as recent employment trends; movement between occupations or sectors (mobility); share of people working part-time, full-time, and self-employed;
 - a range of earnings information;
 - relative unemployment rates;
 - current prospects for finding work; and
 - job prospects for graduates over the coming years.

• **Appendices:**

Glossary: defines terms and phrases—new in *Job Futures 2000*.

Detailed Index of Field of Study Titles: provides a list of all fields of study found in the headings and text of the profiles.

It is strongly recommended that users refer to the chapter, "Understanding the Field of Study Profiles", to make the best use of the information contained in the profiles.

Job Futures Companion

The *Job Futures Companion*, new in 1999, is designed to act as a bridge between the labour market information contained in *Job Futures 2000* and the everyday issues that students and work searchers face in employment and career planning. The *Companion*:

- **Uses a question-and-answer format** based on survey results of typical questions asked by job seekers and students.
- **Provides steps** for users to follow to find the relevant information in *Job Futures 2000*; and
- **Offers sample scenarios** demonstrating how a career practitioner can use *Job Futures 2000* to answer a client's questions about career planning.

How does Job Futures 2000 fit into Career and Education Planning?

Job Futures 2000 is a useful tool for individuals and advisors involved in the education and career planning process. But where and how does it fit?



As demonstrated below, the detailed information in *Job Futures 2000* is useful for each career planning step by providing people with valuable insights about the Canadian labour market that will be pertinent to their educational and occupational choices.

However, it is important to remember that no one resource can be all-encompassing. *Job Futures 2000* should be used in conjunction with other sources of information. (See "Across Canada" in *World of Work: Overviews and Trends* and "For More Information" in Part 1 and Part 2.)

Important Planning Steps

There are a number of important steps that people need to take in their career planning and development—self-assessment, labour market research, and "informed" decision-making.

Parts of this section are adapted from: Labour Market Information or LMI Guide, working draft, HRDC, Waterloo Region, Wellington and Perth Counties, January 2000.

Step 1: Self-assessment

Students and work searchers should identify and explore individual factors that affect their choices such as personality traits, interests, values, wishes and dreams, lifestyle activities, skills, aptitudes, education/training, work-related experience, and health. There are a number of tools available to help them with this part of the journey. Please see *For More Information in Part 1 and Part 2* for a partial list. Keep in mind that these tools cannot measure personal motivation, attitude, or the drive to succeed—all of which can affect individual success in the workplace.

Step 2: Labour Market Research

Students and work searchers also need to undertake, at the very least, some basic research related to the labour market. This labour market information (LMI) is an important complement to their self-assessment as it can help them better understand external factors that may affect their career choices.

LMI is valuable. It includes both qualitative and quantitative information, related to the demand for, and the supply of, labour. It provides facts and figures about a place—the “market”—where an exchange occurs between employers needing workers and individuals offering their baskets of “goods”, containing a blend of their education, skills, experience, and various other personal characteristics.

There are several labour markets to consider. Students and work searchers need to understand that LMI exists in four “markets”—local, provincial, national, and global—that function simultaneously. Each “market” has its own levels and types of LMI, and the supply and demand for workers in each may be different, depending on the type of occupation or work in question. Some questions for students and work searchers to consider:

- *Which “market” most affects my area of work?* An occupational group may operate in one or more of the different labour markets. For example, many workers in professional occupations, such as engineers, computer analysts, and consultants, generally operate in a national or global labour market.
- *How do the local and/or provincial “markets” affect my area of work?* Local and provincial conditions may vary considerably and affect work issues, such as employment opportunities and earnings.
- *What “market” is most involved with my personal career options?* Individuals’ personal situations may determine which labour market may have the greatest impact on their decision-making. For example, if a person’s options are limited to a local area due to personal interests or family responsibilities, his/her awareness of local labour market conditions will be extremely important.

LMI is important. Students and work searchers need to make the best investment of their time, money and education as they plan for the future. To do this, they must assess as much relevant information as they can find, regarding the type of career they are considering. LMI can impact directly or indirectly on their choices. For example:

- *Some people may make career decisions based completely on LMI factors.* They may choose a job after analyzing what job pays the most or which job has a good outlook for obtaining and maintaining employment. Or, they may know what kind of job they want or are trained for, and are seeking the best location in Canada for finding that job. Perhaps they already know their preferred work locality and want to know what jobs are available in that area.
- *Other people may make career decisions that arise primarily out of personal needs and desires.* However, being aware of current or future labour market conditions will still be extremely useful for them. While some students and work searchers may have already decided on fields of study, preferred occupations, or locations, their research on LMI may reveal that relative conditions are not favourable for their choices. This knowledge will help prepare them for potential difficulties and reduce the possibility of unpleasant surprises. LMI may also help people target a job search, have an idea of what level of earnings to expect, or realize that it may take some time to find or keep their preferred job; or, perhaps, that they should consider other occupational options.

Step 3: Making Informed Decisions

Self-assessment and LMI research will not only help people form a solid “knowledge” base for making effective choices, but will also help them develop confidence in their choices. They will feel these “informed” decisions are right for them. And, whether their knowledge of LMI impacts on their decisions directly or indirectly, they will be much better prepared to enter the world of work.

Step 4: Staying Informed

The labour market is constantly changing. As a result, people need to regularly collect, validate, and interpret new LMI to ensure that their ongoing decision-making is based on the latest information available. They need to gather specific information on subjects such as hours of work, educational requirements, physical requirements, job duties, geographical location, wages/earnings, and work environment. As well, they should continue to learn more general information about occupational demand and supply, industries or sectors employing various occupations, broad and specific labour market trends, and general economic trends. This is why HRDC is committed to producing annual updates to *Job Futures*.

How can each part of *Job Futures 2000* be used for career/education planning?

World of Work: Overviews and Trends provides useful information for a variety of students and work searchers. For example:

- *Students* who want to compare the relative labour market conditions of the different levels of education and fields of study.
- *Job seekers* who want information about overall labour market conditions for professional occupations as compared to technical occupations.
- *Individuals re-entering the labour market* who want to learn more about new and emerging sectors, occupations and required skills that are not covered in detail in *Part 1*.
- *Persons considering a career change* who want to explore occupations with favourable outlooks across Canada.

One key message found in this part of *Job Futures 2000* is that an individual's labour market outcomes such as relative earnings or rates of unemployment improve if they have more education. In other words, a person with a high school diploma has more flexibility, options, and opportunities than a person with no diploma. Similarly, a person with post-secondary courses, certificates, diplomas, or degrees has better outcomes relative to a person with a high school diploma. The research also shows, however, that these general results can vary by person, occupation, field of study, region, and over time.

Part 1: Outlooks by Occupation offers detailed information for people with different types of needs. For example:

- *People interested in a particular occupation* can learn about the current and future labour market conditions that newcomers can expect to face.
- *People who are not sure what they want to do* can gather ideas on what types of occupations exist in Canada, or which occupations match their personal working styles.
- *People trying to target a work search* can learn which sectors employ the majority of workers in a particular occupation.
- *People with certain skills* can research occupations requiring their skills where they would be at an advantage relative to others.
- *People who want to know more about educational requirements for a particular occupation* can find cross-references to fields of study in *Part 2*.

Part 2: Outlooks by Field of Study provides useful information for people who have a particular field of interest or aptitude and would like to know more about occupations related to that field. For example:

- *People who want to target their work search* can find information on typical occupations of graduates from each field of study and the related labour market conditions that recent graduates are expected to face as they enter the world of work.
- *People looking for a career change* can learn about the movements of recent graduates within the first five years after graduation. They can also use the cross-references to *Part 1* for ideas about occupations related to their education.

The **Job Futures Companion** helps practitioners answer real-life, critical questions on employment and career issues, and guide clients to build LMI into their career planning process. Although written primarily for practitioners, the *Companion* can help any user wanting to get the most from *Job Futures 2000* by directing them to the appropriate parts where they can find information related to their specific questions. For example:

- *Secondary school students* who want to know why they should continue to study past high school;
- *Job seekers* who want to know which occupations offer the best chances of getting work without having to read each profile; and
- *University students* who want to know what their chances are of getting a job after graduating from their specific field of study.

National and Provincial Versions of *Job Futures*

In addition to the national edition of *Job Futures 2000*, there are several provincial versions providing similar information about occupations and the labour market from a provincial perspective. References to these can be found in:

- “*Across Canada*” in the *World of Work—Overviews and Trends*; and
- “*For More Information*” in *Part 1* and *Part 2*.

What's New in Job Futures 2000?

Job Futures 2000, a suite of products from Human Resources Development Canada (HRDC), is a comprehensive reference tool designed to help Canadians make informed educational and occupational decisions, based on the latest data available.

Please note that *Job Futures 2000* is available in print format and on the Internet.

In addition to providing updated data and revised occupational projections from the Canadian Occupational Projection System (COPS), *Job Futures 2000* includes several enhancements to both the print and Internet versions. As a result of suggestions received from various user surveys and focus groups with career and education counsellors and practitioners, teachers, job seekers, parents, and youth, HRDC has implemented the following improvements:

- **Title changes:** *Part 1*, previously *Occupational Outlooks*, is now titled *Outlooks by Occupation*. *Part 2*, previously *Career Outlooks for Graduates*, is now titled *Outlooks by Field of Study*.
- **A new product, *World of Work: Overviews and Trends*:** addresses topics critical to understanding Canada's labour market. It includes:
 - aggregate trends related to skill types, skill levels, education levels, and broad fields of study;
 - a summary of emerging occupations, sectors and skills within the Canadian labour market;
 - a view of occupations with favourable outlooks by province; and
 - information about potential lifetime earnings by occupation and expected net benefits of various levels of educational investment.
- **The *Job Futures Companion*:** Introduced in 1999, the *Companion* is a step-by-step guide to using *Job Futures 2000*. It is designed to act as a bridge between the important labour market information in *Job Futures 2000* and everyday issues that students and job seekers face in education and career planning. The practical format, using questions-and-answers and sample client scenarios, will help both practitioners and users.
- **New technology on the *Job Futures 2000* Web Site:** HRDC has incorporated a dynamic technology on the site that significantly improves its functionality. Since the technology creates comparison graphs or charts on request, users can now search and compare text or graphic information for up to five occupations or fields of study simultaneously. For example, people interested only in those occupations with low unemployment rates and above-average earnings can now select those variables and receive information on occupations that are limited to their criteria.
- **New linkages on *Job Futures 2000* Web site:**
 - This site now provides more visible links to provincial career information sites.
 - The search criteria on the site are now linked to the *National Occupational Classification* (NOC). This allows a user to search for over 25,000 sample job titles and be linked to the related occupation(s) profiled in *Job Futures 2000*.
 - Each occupational profile in *Job Futures 2000* now links directly to the corresponding occupation in the NOC database.
- **Enhanced earnings information:**
 - For comparison purposes, *Part 1* now has enhanced earnings information that shows a range of earnings by selected ten-year age groups as well as overall averages. The age groups were chosen to reflect early, middle, and later periods in a career path.
 - For comparison purposes, *Part 2* now has enhanced graduates' earnings information that shows a range of earnings over time as well as by overall averages according to level of study. This information was derived from three different national graduate surveys.
- **A glossary of terms:** Definitions and explanations of economic, labour market and other terminology specific to *Job Futures 2000* has been added.
- **Improved indexes in the print version:**
 - *Part 1* now includes listings of occupational profiles alphabetically, by broad industrial grouping (NOC skill type), and by education and training levels (NOC skill level).
 - *Part 2* now includes listings of the field of study profiles alphabetically, by educational level and by broad field of study.
- **Improved design:** Text and graphics have been modified to be more visually appealing in both the print and Internet versions.

Understanding the Occupational Profiles

Coverage

Part 1 of Job Futures 2000 provides information on 211 occupational groups, drawn from the National Occupational Classification (NOC). (See “*About the National Occupational Classification*” below). Of these, 137 are NOC minor occupational groups, which are coded with three digits. The other 74 are NOC unit groups, which are coded with four digits. The 137 three-digit occupational groups cover all employment in Canada, except military occupations.

Contents

Information on each occupational group includes:

- job duties and responsibilities
- the level and type of education, training and experience required of workers in the group
- main labour market characteristics of the group
- types of employers who hire workers in the group
- current prospects of finding work in occupations within the group
- work prospects over the coming years.

This information applies to the occupational group *only*, not to each individual occupational title within the group. Generally, jobs and types of work that have been grouped together share similar characteristics. It is possible, however, that:

- workers in a particular occupation within a group may experience *different* labour market conditions from those in other occupations in the same group; or
- some or all aspects of working in a particular occupation are different than those in other occupations in the group although the *same* conditions apply.

Where possible, such situations are described in the text.

About the Text

At Work

This section provides information about work experience in the occupational group. This information is adapted from the NOC’s descriptions of occupations. In some instances, it has been modified as the result of consultations, held in the fall of 1999, with industry associations, professional groups, unions or sector councils.

- An opening statement identifies the types of employers who hire workers in the group and provides information on self-employment, when relevant.
- Facts presented in bulleted format are brief descriptions of the main work activities in the group. For some larger occupational groups, these work activities are grouped according to specific jobs.
- There may be an additional closing statement for groups that are comprised of many occupations. This statement lists job titles not mentioned elsewhere in the “*At Work*” section.

Education, Training and Experience

This section provides information on the employment requirements for an occupational group adapted from the NOC’s descriptions of occupations. In some instances, it has been modified as the result of consultations, held in the fall of 1999, with industry associations, professional groups, unions or sector councils. While it does *not* provide an exhaustive description of all employment requirements, this section will provide general information about those requirements common to an occupational group.

This information includes:

- type and level of education
- specific training
- work experience
- licences
- certificates
- registration

This section also describes the educational qualifications of recent entrants for many occupational groups. This description is based on the educational levels of persons 15 to 29 years of age in the occupational group, as measured in the 1996 Census.

The section has two parts:

- The first bullet identifies the minimum level of education, training and experience that workers require for employment within an occupational group.
- Additional bullets provide specific requirements for all or some workers within that group.

In These Occupations...

This section provides information on general economic characteristics for an occupational group. There are generally eight bullets for three-digit occupational groups and seven bullets for four-digit groups. Each bullet completes the sentence “In these occupations...”

- **The first bullet** provides information about the size of the occupational group and employment trends. It offers a snapshot of the occupational group from 1988 to 1998, including:
 - The number of workers in the group in 1998. Occupations with high employment levels are likely to have a wider variety of job openings.
 - The overall percentage increase or decrease in the number of workers from 1988 to 1998, providing an indication of long-term growth or decline in the occupational group, as well as the percentage increase for each half of the decade, 1988 to 1993 and 1993 to 1998, providing an indication of recent trends.
 - A comparison with overall employment growth in the economy for the same periods to show whether growth in the occupational group is slow or fast. Occupations with rapid employment growth are likely to have more job openings available to labour market entrants.
- **The second bullet**, for a three-digit occupational group *only*, gives the percentage distribution of employment for its related, four-digit occupational groups. This will help the reader gain a better understanding of the make-up of the three-digit occupational group. This bullet does not appear in the four-digit occupational profiles.
- **The next three bullets** cover part-time employment, self-employment and the proportion of women in the occupational group, and include a comparison with overall employment. When there is a significant difference, this is indicated as “well above” or “well below” average. As well, if the percentage of part-time, self-employed or female workers in the occupational group has risen more than five percentage points in the past 10 years, this is characterized as having “increased significantly.” Conversely, if the percentage has fallen more than five percentage points, this is characterized as having “decreased significantly.”

This type of information about recent trends will provide the reader with important knowledge about opportunities in the occupational group. For example:

- A low proportion of part-time employment may mean that the occupational group offers few opportunities for part-time work, while a high proportion may indicate more opportunities for part-time work, or it may mean full-time employment is more difficult to find.
- A high proportion of self-employment may be an indication of good opportunities for people who want to be their “own boss.”
- A low proportion of women in an occupational group may indicate opportunities for women in non-traditional occupations, or that this occupation has not been attractive to women seeking work.

- **The second-to-last bullet** compares the unemployment rate in the occupational group to that for all occupations. (For more details, see “About the Charts”). If there is a significant difference, an unemployment rate will be described as “well above average” or “well below average.” A high unemployment rate indicates limited chances of finding or keeping employment, while a low unemployment rate indicates relatively good chances of finding or keeping employment.

Readers should note that, when making further comparisons on unemployment rates, they will get the most accurate contrast if they compare occupations with similar education and training requirements or those in a similar industry.

- **The last bullet** provides earnings levels in an occupational group as compared to earnings levels in other occupational groups in a similar industry or where workers have similar education and training requirements. If there is a significant difference, this is indicated as “well above average” or “well below average.” Earnings levels provide an important indication of:
 - What job seekers might expect to be paid in the occupations within the group.
 - Labour market conditions since above-average earnings usually imply that employers are having difficulty in filling job openings. When this occurs, higher earnings are offered to attract qualified job seekers and may be seen as compensation for higher levels of training.
- **An optional bullet** will appear at the end of this section, for both three- and four-digit occupational groups, when employment in the group is highly sensitive to overall economic conditions. Readers will find this information useful as there is a likelihood of employment loss when overall economic conditions become unfavourable.

National Outlook to 2004

This section provides an evaluation of current labour market conditions in an occupational group, based on the most recent data available, i.e., 1998, augmented with more recent qualitative information, and how these conditions are expected to change through 2004.

Readers should note that these ratings describe the conditions in an occupational group at the national level only. Conditions may vary among the different four-digit occupations within a three-digit occupational group, or in different local and provincial labour markets.

- **The first bullet** describes current labour market conditions in the occupational group as providing *good, fair or limited* chances of finding stable employment with above-average earnings. This rating is followed by an explanation.

- **The second bullet** describes the change, or lack of change, in labour market conditions through 2004, and states whether chances of finding work in the occupational group will be *good*, *fair* or *limited* in 2004. This rating is followed by an explanation.
- **The next bullet(s)** describe specific developments that will influence labour market conditions, such as technological changes that affect the nature of work or required qualifications.
- **An optional bullet** provides the views, gathered in 1999, of an industry association, professional group, union or sector council on current or future labour market conditions for the occupational group.
- **A final bullet** discusses the principal sources of growth in labour requirements expected to occur in the occupational group through 2004, or states that employment requirements are either expected to decline or not expected to grow. This information provides valuable information to readers on what industries are likely to be hiring workers in the occupational group or, on the other hand, provides a warning that there is not likely to be much hiring of new entrants.

Definitions of Rating Terms

- **Good** means that chances of finding work are relatively strong, that chances of employment loss are relatively weak, and that earnings are relatively attractive.
- **Fair** means that these chances are neither *good* nor *limited*. For example, jobs may be more difficult to find, the probability of unemployment may be higher, or earnings may be lower than in comparable occupational groups that are rated *good*. Conversely, jobs may be easier to find, unemployment less likely, and earnings higher than in comparable occupational groups that are rated *limited*.
- **Limited** means that new entrants and re-entrants will have difficulty finding stable work and/or that earnings are not attractive relative to those in other occupations. For new entrants, such as school-leavers, i.e., graduates and drop-outs, and immigrants, *limited* usually means a low probability of finding permanent work and, if they find a job, relatively low earnings. For employed workers, *limited* will often mean a high probability of loss of work, a high probability of experiencing unemployment spells, and lower earnings.

A limited rating does not mean that people should avoid seeking employment in the occupation, but that their work search may be longer or more challenging than a similar work search in another occupational group.

How Ratings Are Determined

Current Rating

HRDC specialists develop current ratings by interpreting statistics relevant to the occupational group and base their evaluation on eight indicators. Five indicators are based on the unemployment rate for the group; three on year-round, full-time earnings for the group.

The five unemployment-rate-based indicators compare the group's unemployment rate to:

- the average level for all occupations
- the average level for occupations in the same NOC skill level
- the average level for all occupations in the same NOC skill type
- the unemployment rate in the group compared to its recent pattern
- the unemployment rate in the group evaluated in terms of its cyclical level

The earnings-based indicators compare average earnings of year-round, full-time workers in the group to:

- the average level for all occupations
- the average level for occupations in the same NOC skill level
- the average level for all occupations in the same NOC skill type

The rating system takes into account whether employment in the occupational group has decreased significantly over the last 10 years for which data are available.

The current rating may be adjusted based on feedback received through consultation, in the fall of 1999, with industry associations, professional groups, unions and sector councils, as well as other qualitative information.

Approximately 25 per cent of three-digit occupational groups have a current rating of *good*, 25 per cent have a current rating of *limited*, and the remaining 50 per cent have a current rating of *fair*.

Future Rating

HRDC specialists begin with the rating of the current situation in order to assess labour market conditions for an occupational group in 2004. If, over the 1999 to 2004 period, the COPS economic models project significantly more new job openings, due to new job creation and retirements, than the number of new job seekers, i.e., new school leavers, immigrants and occupational re-entrants, then labour market conditions are expected to improve. This may lead to the current rating being adjusted up one level, e.g., *fair* to *good*.

Alternatively, a significant excess of the number of new job seekers relative to the number of new job openings may result in deteriorating labour market conditions. In this case, the rating may be adjusted down one level, e.g., *fair* to *limited*.

As was the case for the current rating, the future ratings for occupational groups may have been modified as the result of the 1999 consultations with industry associations, professional groups, unions and sector councils, as well as other qualitative information.

Limitations of Ratings

The ratings of current and future labour market conditions for an occupational group are estimates based on available data, qualitative analyses and consultations with industry associations, professional groups, unions and sector councils. Because occupational labour markets adjust continuously to changing labour market conditions, and since external factors such as technological change and social and political conditions can evolve rapidly, information on labour market conditions requires frequent updates.

Also, since the ratings of current and future labour market conditions are estimates, they need to be revised as new data becomes available and are integrated into the COPS models. The detailed economic assumptions described in the COPS 1999 *Reference Scenario* (see "*For More Information*") were used to develop the projections of occupational labour market conditions for 2004. Changes in the scenario are one source of differences between projected labour market conditions in this edition and in earlier editions of *Job Futures*. More recent labour market data could be another source of such differences.

As stated above, these ratings describe the conditions in the occupational group at the national level *only*. Conditions may vary among the different occupations within an occupational group, and may be different in local or provincial labour markets.

About Data Sources and Estimates

Three objectives guide the choice of data sources used for *Job Futures 2000*:

- To provide accurate data.
- To provide data which is as current as possible.
- To provide the same information (as data or estimates) for all of the included occupational groups.

The principal data sources for *Job Futures 2000* are the Labour Force Survey (LFS) and the Survey of Consumer Finance (SCF). To improve the reliability of the data through increased sample size, the data are typically an average of the latest three years of data available from the LFS or the SCF. The three years used are the most recent available—1996 to 1998 for the LFS and 1995 to 1997 for the SCF. The SCF earnings figures were rounded.

In some instances, especially at the four-digit NOC level, 1996 Census data have been used to adjust LFS or SCF data because of their small sample sizes. These enhancements were generally required to derive the percentages of part-time workers, self-employed workers and female workers for four-digit occupational groups. As well, for certain occupational groups, HRDC specialists judged the earnings data obtained from the SCF to be inaccurate, due to difficulties with the occupational coding in the SCF. In these cases, earnings data from the 1996 Census were used. The Census earnings figures were not rounded.

The employment data for three-digit occupational groups come from the LFS. The employment estimates for four-digit occupational groups are COPS model estimates, which are derived from the LFS data for three-digit occupational groups and from detailed LFS and Census data.

In occupations in which there are certification requirements, the employment estimates in *Job Futures 2000*, which are based on the LFS, will not necessarily coincide with the number of employed persons with the appropriate certification. This is because the LFS, which classifies individuals as to occupation based on their description of their job title and job activities, does not ask about certification.

The unemployment rate estimates for four-digit groups were also adjusted using a combination of COPS economic model results and counts of Employment Insurance claimants.

Part 1 of Job Futures 2000 may be a starting point for readers who are interested in detailed information on a particular occupational group. These profiles contain references or links to related occupations in *Part 1, Outlooks by Occupation* and related fields of study in *Part 2, Outlooks by Field of Study*.

Related Occupation(s)

In the Internet version, links to related occupations are found under the heading *Related Occupation(s)*. In the print version, a list of *Related Occupation(s)* can be found in the header on the second page of each profile.

For occupations at the three-digit level, references are provided to any occupations at the four-digit level for which there is a separate occupational profile. These profiles will provide more detailed information on an important component of the broader, three-digit occupational group. For example, the description of the three-digit group, *Civil, Mechanical, Electrical and Chemical Engineers (NOC 213)*, includes a reference or link to the four-digit groups:

- *Civil Engineers (NOC 2131)*
- *Mechanical Engineers (NOC 2132)*
- *Electrical and Electronics Engineers (NOC 2133)*

In the profiles of occupations at the four-digit level, a reference or link is provided to the broader, three-digit occupational grouping which includes these four-digit occupations. Readers may find that this provides useful information on labour market trends in a broader occupational context. For example, the related occupation(s) for each of the four-digit engineering occupations listed above includes a link to the three-digit group *Civil, Mechanical, Electrical and Chemical Engineers (NOC 213)*.

Related Occupation(s): 0111, 0112

Part 2 Field of Study Cross-index: U120, U880, M120, U820, M820

NOC 011

Part 2 Field of Study Cross-index

A series of links to related fields of study appears under the heading of each profile in the Internet version and in the header on the second page of each profile in the print version.

These are the major fields of study described in *Part 2*, which are expected to supply graduates to that occupational group. In the field of study code:

- **T** denotes a trade/vocational program
- **C** denotes a community college/Cégep career program
- **U** denotes an undergraduate university program
- **M** denotes a master's level university program

An explanation of the coding structure for fields of study is provided in "*Understanding the Field of Study Profiles*" in *Part 2*.

National Occupation Classification (NOC) Code

The NOC code for each occupational group appears in the header on the second page of each profile in the print version, and following the occupational title at the beginning of each profile in the Internet version.

The NOC code provides information on the *skill type (broad industrial groupings)* and *skill level (educational and training level requirements)* of an occupational group. For more information on these codes, read "*About the National Occupational Classification (NOC)*" in this section.

The code is either a three-digit number for occupational minor groups or a four-digit number for occupational unit groups.

About the Charts

Where They Work

This graph gives the percentage distribution of employment in an occupational group by industry group. It indicates a maximum of seven key industries in which companies are likely to employ workers in the group.

Administrative Service Managers

Where They Work



At Work

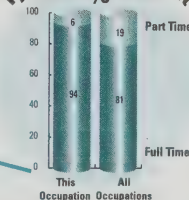
People in this group are employed throughout the private and public sectors.

- Financial managers plan and direct the operations of financial departments, develop and implement financial policies and procedures.
- Human resource managers plan and direct the operations of human resource and personnel departments, develop and implement policies, programs and procedures relating to all aspects of personnel administration.
- Purchasing managers plan and direct the operations of purchasing departments, and develop and implement purchasing policies of their organization.
- Managers providing other administrative services plan and direct the operations of direct departments that offer a single service, security, records management or admission services such as finance, human resources and computer services.

Type of Employment

This chart gives the percentage distribution of persons employed in an occupational group between full-time workers and part-time workers, and compares this to the distribution of full-time and part-time employment in the economy. A low proportion of part-time employment may mean that the occupational group offers few opportunities for part-time work, while a high proportion may indicate more opportunities for part-time work, or it may mean full-time employment is more difficult to find.

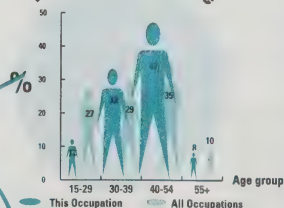
Type of Employment



Education, Training & Experience

- These managers usually require an undergraduate university degree or a community college diploma in business administration, economics, communications or a related discipline. Most recent entrants have an undergraduate university degree or a community college diploma.
- They usually need several years' experience in a completed company or other management programs.
- Purchasing managers may require a university college diploma in a field related to the product purchased, and the designation Certified Professional Purchaser (CPP) from the Purchasing Management Association of Canada (PMAC) or registration in an education program.

Distribution by Age



In These Occupations...

- 127,000 people were employed in 1998, an increase of 23.4% from 1988. Most of the growth occurred in 1998 when employment increased 19.6%. In 1998, employment in all occupations grew 12.3% over the last five years, and 8.2% over the last ten years.

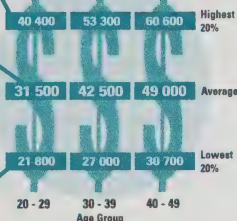
Distribution by Age

This chart indicates the age distribution of workers in an occupational group and compares it to the age distribution for all occupations. Occupations with a relatively young work force tend to be entry-level occupations that are open to new entrants. However, in occupations with a high concentration of older workers, i.e., those that are less likely to be entry-level occupations, deaths and retirements may create employment opportunities for younger job seekers.

Check out the 'big picture' *World of Work: Overviews and*

NOC 011

Earnings

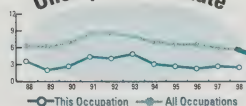


Overall Average for All Ages (15+)
This Occupation: 45 300
All Occupations: 37 400

Work Prospects



Unemployment Rate



Earnings

This graphic provides occupational-group information on the 1997 earnings of full-time, full-year workers in three different age groups. Although the data may appear dated, it is the most recent available and is useful when making relative comparisons to other occupations. The age groups — 20 to 29, 30 to 39 and 40 to 49 — were chosen to approximate the career path of workers at three different stages: entry-level, mid-career and peak.

For comparison, the average annual earnings of all full-time, full-year workers in the occupational group and in all occupations are given.

Full-time, full-year earnings do not include other forms of compensation such as retirement benefits, stock options or expense accounts, but do include net self-employment income.

Work Prospects

The circles in this chart illustrate the current (1998) and future (2004) outlooks for finding work, rated as *good*, *fair* or *limited*. These ratings correspond to the description provided in each profile in the section *National Outlooks to 2004*. (Also see section above "How Ratings are Determined".)

Unemployment Rate

This chart gives the unemployment rates for the occupational group and compares it to that for all occupations, from 1988 to 1998. The unemployment rate for all occupations includes, as unemployed, only those unemployed persons who also held employment within the past twelve months, because they can be classified to an occupation. The result is that the unemployment rate in *Job Futures 2000* is considerably lower than that for the entire labour force which is often the one reported in the media. The latter includes, as unemployed, both unemployed persons who held employment in the last twelve months, and those who did not but were seeking employment.

An unemployment rate for "This Occupation" that is above the average for "All Occupations" suggests that a new job seeker could expect to have difficulty in finding stable employment. A consistently above-average unemployment rate, i.e., from 1988 to 1998, indicates that this problem is not simply the result of one bad year and further highlights weak employment opportunities.

About the National Occupational Classification (NOC)

The NOC classifies and describes more than 25,000 occupations in the Canadian labour market. These occupations are categorized into three levels:

- 26 major groups
- 139 minor groups
- 522 unit groups

The 26 major groups are identified by two-digit numbers. Some examples are code 11, Professional Occupations in Business and Finance; code 32, Technical and Skilled Occupations in Health; and code 86, Labourers in Primary Industry. These groups are then further broken down into minor groups.

The 139 minor groups, all of which are included in *Job Futures 2000* except for military occupations, are identified by three-digit numbers. Some examples are code 513, Creative and Performing Artists; code 621, Sales and Service Supervisors; and code 761, Trades Helpers and Labourers. These groups, in turn, are further broken down into unit groups.

The 522 unit groups, 74 of which have been chosen to be included in *Job Futures 2000*, are identified by four-digit numbers and provide the detailed information found in the NOC occupational descriptions. Each four-digit group has information on employers, sample occupational titles, main duties, employment requirements and any pertinent additional information. Some examples are code 1232, Loan Officers; code 5253, Sports Officials and Referees; and code 7266, Blacksmiths and Die Setters.

Part 1 of *Job Futures 2000* includes 137 three-digit and 74 four-digit occupational groups. Some of the three-digit groups comprise information on two or more four-digit occupations which are indicated in "*Related Occupation(s)*" as described above. Certain four-digit occupations are included because they provide readers with additional information on occupations for which HRDC specialists had specific knowledge regarding market prospects.

The first digit refers to the Skill Type Category:

1. *Business, Finance and Administrative Occupations*
2. *Natural and Applied Sciences and Related Occupations*
3. *Health Occupations*
4. *Occupations in Social Science, Education, Government Service and Religion*
5. *Occupations in Art, Culture, Recreation and Sport*
6. *Sales and Service Occupations*
7. *Trades, Transport and Equipment Operators*
8. *Occupations in Primary Industry*
9. *Occupations in Processing, Manufacturing and Utilities*

Occupation(s): 1121, 1122

Field of Study Cross-index: U120, M120, C121, U880

NOC 112

The second digit refers to the Skill Level Category:

1. *Skill Level A (Professional Occupations)*
- 2 or 3. *Skill Level B (Technical, Paraprofessional and Skilled Occupations)*
- 4 or 5. *Skill Level C (Intermediate Occupations)*
6. *Skill Level D (Labouring and Elemental Occupations)*

NOC SKILL LEVEL CRITERIA - Education/Training

Skill Level A

University degree,
e.g., bachelor's,
master's or post-
graduate

Skill Level B

- Two to three years of post-secondary education at community college, Cégep or trade/vocational school
- Two to four years of apprenticeship training
- Three to four years of secondary school and more than two years of on-the-job training, training courses or specific work experience

Also includes:

- Occupations with significant health and safety responsibilities, e.g., firefighters, police officers and registered nursing assistants (licensed/practical nurses)
- Occupations with supervisory responsibilities

Skill Level C

- One to four years of secondary school education
- Up to two years of on-the-job training, external training courses or specific work experience

Skill Level D

- Up to two years of secondary school and short work demonstration or on-the-job training

Important Note:

This structure applies to all occupations except management occupations. For management, the first digit is "0" and the second digit represents the skill type categories, from 1 to 9, as described above.

For More Information

Job Futures 2000 is one of many sources of labour market information for Canadians. Complementary publications offering comprehensive information on training and education, career planning, counselling and occupations are also available. The following list is a sample of some useful sources that the reader may like to reference, including:

- **Provincial/Regional Versions of Job Futures**
- **Related Sites – Occupational, Labour Market and Career Information**
- **Local Labour Market Information**
- **HRDC**
 - Related Publications
 - Occasional Publications
- **Other Relevant Sites**
- **Additional Career Information**

Provincial/Regional Versions of Job Futures

Provincial education or labour departments, as well as the national and regional offices of Human Resources Development Canada (HRDC), are partners in the Canadian Occupational Projection System (COPS). Most jurisdictions produce, often in collaboration, current and future information on occupations, several of which are provincial versions of *Job Futures*. These are listed below.

Province

Provincial / Regional Versions of Job Futures

Prince Edward Island	www.pei.jobfutures.org
New Brunswick	www.nb.hrdc-drhc.gc.ca/New_Brunswick/common/lmi/job/fut/mj_e.html
Quebec	www.qc.hrdc-drhc.gc.ca/job-futures – Scheduled to be updated on an on-going basis, beginning mid-October 1999.
Ontario	www.on.hrdc-drhc.gc.ca/english/lmi/eaid/occ/info/cj/fut_e.html - Provides access to <i>Ontario Job Futures</i> which is scheduled to be updated in the Spring of 2000. www.edu.gov.on.ca/eng/career/labmark.html : Also provides access to <i>Ontario Job Futures</i> .
Saskatchewan	www.sk.hrdc-drhc.gc.ca/lmi/en/menu/00000e.shtml - An occupational outlook to 2002.
Alberta/NWT	www.ab.hrdc-drhc.gc.ca/lmi/main/futures.htm – Provides access to <i>Alberta Job Futures, 1995 to 2001</i> . www.alis.gov.ab.ca - Also provides access to <i>Alberta Job Futures, 1995 to 2001</i> .
British Columbia	www.workfutures.bc.ca - Provides access to <i>B.C. Work Futures'</i> site, scheduled to be updated in April 2000.
Yukon	www.workfutures.yk.ca

Many HRDC COPS partners do not produce a 'Job Futures', but do provide similar occupational information as well as other career and labour market information material, at provincial and local levels. This information can be accessed through the web sites listed below.

Province

Related Sites – Occupational, Labour Market and Career Information

Newfoundland	www.nf.hrdc-drhc.gc.ca - General labour market information, including occupational profiles. www.gov.nf.ca – Includes publications <i>Career Search 1999</i> and <i>Post-secondary Indicators</i> .
Prince Edward Island	www.gov.pe.ca/infopei/index.php3 - see sections "Education and Learning" and "Statistics".
Nova Scotia	www.ns.hrdc-drhc.gc.ca/english/index.htm www.ednet.ns.ca/educ/career/ - Includes <i>Career Options: an Occupational Handbook for Nova Scotians</i> .
New Brunswick	www.gov.nb.ca/dol-mdt/lma/product.htm - Includes <i>Occupational Profiles; Snapshot of the New Brunswick Labour Market</i> (hard copy also available); <i>Handbook of Labour Market Information</i> (update in 2000); and <i>Employer Survey</i> (December 1999).
Quebec	www.mss.gouv.qc.ca/mes/doc/Emplqc/imt.htm - Includes <i>Information sur l'éducation, la formation et les établissements de formation; Données et analyses sur l'intégration des finissants des systèmes d'enseignement et de formation; Analyses de la conjoncture économique et du marché du travail; et Perspectives du marché du travail au Québec 1999-2000</i> .
Ontario	www.edu.gov.on.ca/eng/career/ - Includes <i>Career Gateway</i> (career exploration, job-search skills, education/training information.) www.equalopportunity.on.ca/enggraf/more/trades.html - Provides information on access to professions and trades.
Manitoba	www.mb.hrdc-drhc.gc.ca/menu/lmi.shtml - Includes local labour market information. www.edu.gov.mb.ca/tce/carjob/occ_car_info/occ_car_info.html - Includes <i>High Demand Occupations in Manitoba</i> (1999); <i>Occupations with Active Recruitment</i> ; <i>Industrial and Occupational Profiles</i> ; and <i>Career Planning Guide</i> .
Saskatchewan	www.sasknetwork.gov.sk.ca - Includes career, employment and labour market information.
Alberta/NWT	www.alis.gov.ab.ca/ - Includes a summary document of <i>Alberta Careers Beyond 2000</i> (scheduled to be updated in the Spring of 2000).
British Columbia	www.ceiss.org - Includes <i>Job Destinations of Former College and Institute Students: Analysis by Institutions; Survey Results by Program for Former College and Institute Students; Indicators for B.C. Colleges and Institutes: Analysis by Institution; B.C. University Graduates Outcomes; and Private Training Outcomes Survey</i> . www.workinfolnet.bc.ca - Provides access to <i>B.C. Work Futures</i> , and other resources such as <i>WorkScene: B.C. Work Futures for Youth</i> ; <i>A Guide to the B.C. Economy and Labour Market</i> ; and <i>What's Key in Labour Market Information in B.C.</i>

Readers are also encouraged to contact their provincial ministry of education or labour, or a HRDC regional office or resource centre in their area for additional resources and related information.

Local Labour Market Information

HRDC's National Labour Market Information Service site provides access to general and detailed information on local labour markets across Canada:

<http://lmi-imt.hrdc-drhc.gc.ca>

HRDC – Related Publications

- The National Occupational Classification (NOC) describes occupations, employment and licensing requirements in Canada. Electronically available at Web address: www.hrdc-drhc.gc.ca/noc
- NOC *Career Handbook* details career counselling information based on occupational groups in the NOC. Electronically available at Web address: www.hrdc-drhc.gc.ca/noc
- *Career Considerations* provides a wall chart and accompanying brochures on 19 occupational groups.
- *Career Moves* is a series of booklets on labour market trends and job opportunities in different sectors of the economy.
- *Career Directions* details information about 160 jobs that do not require a university education.
- *Canada Prospects* gives career information for all Canadians in an annually published tabloid format. Electronically available at Web address: www.careerccc.org/english/showcase/index_e.htm
- *InterOptions* is an interactive software program that helps users match their interests to different careers.
- The *Ellis Chart* details information on provincial and territorial apprenticeship programs.
- HRDC and Industry Canada have identified a number of emerging sectors, considered to be high growth areas. Overviews of some of these emerging sectors are available at the following Web address: www.hrdc-drhc.gc.ca/sector/profiles/emerging.shtml.
- HRDC provides information about labour market issues and how they relate to various industry sectors in Canada. Electronic access to these studies is available at: www.hrdc-drhc.gc.ca/sector/home.shtml.

Readers who want more information on these publications or products should contact:

Human Resources Partnerships Directorate
140 Promenade du Portage
Place du Portage
Phase IV, 5th Floor
Hull, Quebec K1A 0J9
Fax: (819) 953-8700

HRDC – Occasional Publications

- The *School Leavers Survey* examines high school graduates and school leavers with respect to their school experience, academic performance, part-time employment, labour market and changes to lifestyle.
- The *National Apprenticesable Trades Survey* looks at the social characteristics of apprentices, their labour market experiences, the match between training and occupations, and factors leading to non-completion of trade programs.
- The *National Graduates Survey* (NGS) examines such areas as the employment status, occupations, earnings and job satisfaction of university, community college and trade/vocational graduates two years after graduation.
- The *Follow-up Survey of Graduates* re-examines the experience of the graduates surveyed in the NGS five years after graduation, providing more information on their career progressions.
- The *Adult Education and Training Survey* reports on the learning activities of adults once they have completed their formal education with a special focus on job-related learning.
- From HRDC's Applied Research Branch, the *Canadian Occupational Projection System, 1999 Macroeconomic Reference Scenario, T-99-1E*. For more information on this publication only, visit: www.hrdc-drhc.gc.ca/arb/publications/research/alph.shtml#cc; or contact: research@spg.org; fax: 819-953-9077.
- A detailed inventory of other publications related to a variety of labour market research topics can be accessed via HRDC's Applied Research Branch Web site: www.hrdc-drhc.gc.ca/arb/publications/research/research.shtml.

More information on these publications and products is available from:

Public Enquiries Centre
Communications Branch
Human Resources Development Canada
Hull, Quebec K1A 0J9
Fax: (819) 953-7260

These publications are also available electronically at: www.hrdc-drhc.gc.ca/arb/publications/books.

Other Relevant Sites

- Canada's WorkinfoNET is a free on-line gateway site providing links to numerous career, labour market and education information sites as well as links to provincial, regional and local sites:

- www.workinfo.net

- Industry Canada's Web site may be useful for more information on economic and industrial trends and links to other relevant sites.

- <http://strategis.ic.gc.ca>

- SchoolNet is a free on-line source for information on education:

- www.schoolnet.ca

The following educational associations can also provide relevant information:

Association of Canadian Community Colleges (ACCC)

1223 Michael Street, Suite 200
Ottawa, Ontario K1J 7T2
Fax: (613) 746-6721
Internet: www.accc.ca

Association of Universities and Colleges of Canada (AUCC)

350 Albert Street, Suite 600
Ottawa, Ontario K1R 1B1
Fax: (613) 563-9745
E-mail: info@aucc.ca
Internet: www.aucc.ca

Additional Career Information

Below are a few examples of other resources and sites which may be useful for the career planning process.

• **Self-Assessment/Self-Exploration**

Keirsey Temperament:

www.keirsey.com

Myers-Briggs General Information:

www.teamtechnology.co.uk/

Career Questionnaire :

<http://cbweb9p.collegeboard.org/career/html/searchQues.html>

Careers Interest Quiz:

www.schoolfinder.com/career/carquiz.htm

• **Career Exploration**

Work Search:

worksearch.gc.ca

Youth Resource Network of Canada:

youth.gc.ca/menu_e.shtml

• **Guidance/Career Counsellors**

HRDC: Counsellor Resource Centre:

www.worksearch.gc.ca/crc

Contact Point:

www.contactpoint.ca

Canada Career Consortium:

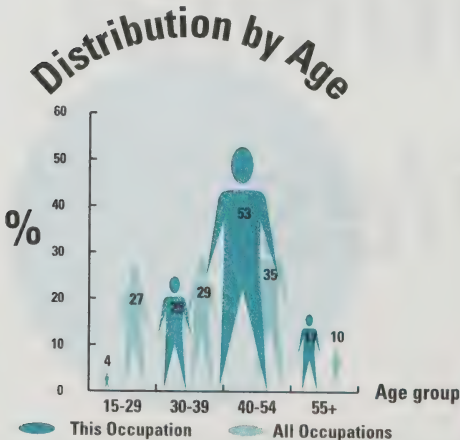
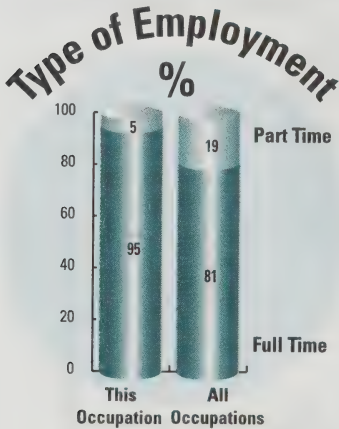
www.careerccc.org

Job Futures 2000

*Occupational
Profiles*

Legislators and Senior Managers

Where They Work



At Work

Legislators and senior government managers and officials work at the national, provincial, territorial and local levels of government. Senior managers outside government are employed throughout the private sector.

- Legislators enact, amend or repeal laws and regulations at the federal, provincial, territorial and local levels of government.
- Senior government managers and officials plan, organize, direct and control the major activities of government departments, boards, agencies and commissions. They establish the direction of their organizations according to policies made by elected officials and legislative bodies.
- Senior managers (other than government) plan, organize, direct and control the major activities of their organizations. Working alone or with a board of directors, they establish policies to direct their organizations.

Education, Training & Experience

- People in this group have different educational requirements, depending on their position. Most recent entrants have a high school diploma or an undergraduate university degree.
- Legislators are elected or appointed.
- Senior government managers and officials usually require a university degree or college diploma and several years' general managerial experience. They may also need a graduate degree in a related field.
- Senior managers (other than government) usually have a university degree or college diploma in a specific or a related discipline, as well as several years' managerial experience related to their area of work. They may need to specialize in a particular area and obtain a professional designation.

In These Occupations...

- 144,000 people were employed in 1998, an increase of 4.8% from 1988. However, after rising 11.3% over the 1988 to 1993 period, employment decreased 5.8% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

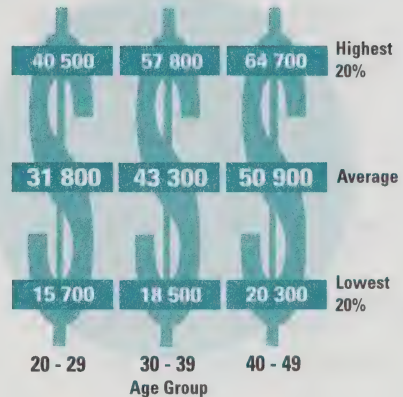
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 30% are senior managers in goods production, utilities, transportation and construction; 25% are senior managers in trade and broadcasting; and 20% are senior managers in financial, communications and other business services.
- 5% work part-time, well below the average of 19% for all occupations.
- 33% are self-employed, well above the average of 17% for all occupations.
- 21% are women, well below the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 2% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other managerial occupations.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings for these managers is expected to be matched by the number of qualified, experienced job seekers.
- Competition for senior management jobs is expected to be intense, as a large number of middle managers in an aging work force seek to move into senior positions.
- Much of the increase in employment requirements through 2004 in these occupations is expected to occur in the business services, construction and wholesale trade industries.

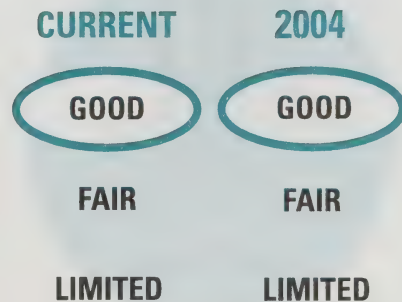
Earnings



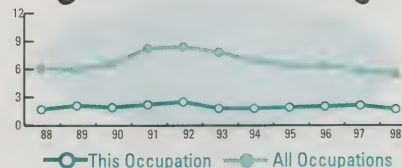
Overall Average for All Ages (15+)

46 800	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



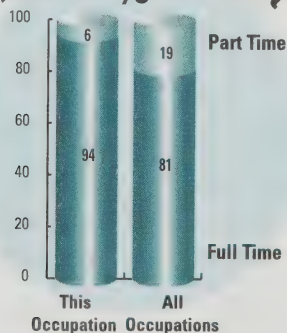
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Administrative Service Managers

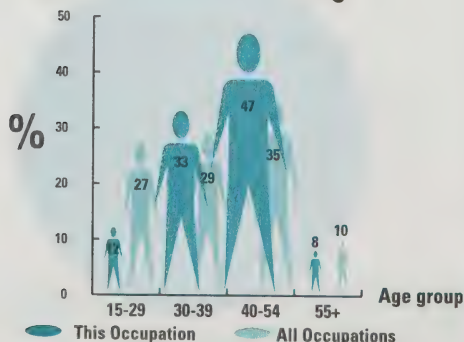
Where They Work



Type of Employment %



Distribution by Age



At Work

People in this group are employed throughout the private and public sectors.

- Financial managers plan and direct the operations of accounting, audit and other financial departments, and develop and implement financial policies and systems.
- Human resource managers plan and direct the operations of human resource and personnel departments, and develop and implement policies, programs and procedures relating to all aspects of personnel administration.
- Purchasing managers plan and direct the operations of purchasing departments, and develop and implement the purchasing policies of their organization.
- Managers providing other administrative services plan and direct departments that offer a single service such as security, records management or admissions, or several services such as finance, human resources, purchasing and computer services.

Education, Training & Experience

- These managers usually require an undergraduate university degree or a community college diploma in business administration, economics, commerce or a related discipline. Most recent entrants have an undergraduate university degree or a community college diploma.
- They usually need several years' experience and have completed company or other management training programs.
- Purchasing managers may require a university degree or college diploma in a field related to the products they purchase, and the designation Certified Professional Purchaser (CPP) from the Purchasing Management Association of Canada (PMAC) or registration in the PMAC education program.

In These Occupations...

- 127,000 people were employed in 1998, an increase of 23.4% from 1988. Most of the growth occurred from 1993 to 1998 when employment increased 19.6%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

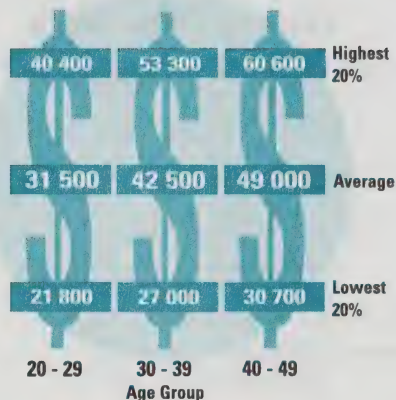
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 44% are financial managers; 26% are human resources managers; and 23% are other administrative services managers.
- 6% work part-time, well below the average of 19% for all occupations.
- 5% are self-employed, well below the average of 17% for all occupations.
- 52% are women, compared to an average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 2.4% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the business, finance and administration sectors.
- the average earnings are comparable to those for other managerial occupations but are among the highest for occupations in the business, finance and administration sectors.

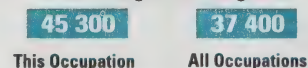
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings for these managers is expected to increase more rapidly than the number of qualified, experienced job seekers.
- Adoption of computer technologies will increasingly affect the work of managers in this group of occupations.
- Employment requirements in these occupations are expected to increase through 2004 across a broad range of industries.

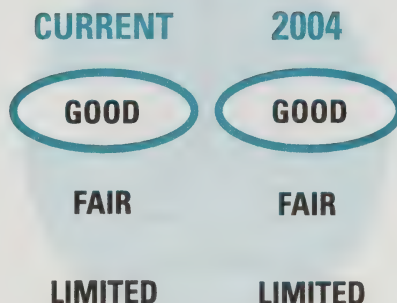
Earnings



Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



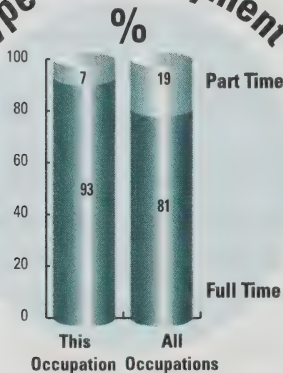
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Financial Managers

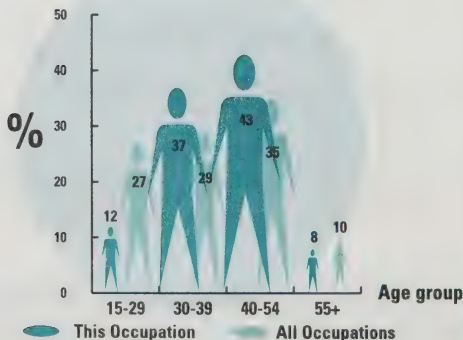
Where They Work



Type of Employment



Distribution by Age



At Work

These managers plan, organize, direct and control the operations of accounting, audit and other financial departments in the private sector and government. Their duties require them to:

- develop and implement financial policies, systems and procedures;
- prepare, or co-ordinate the preparation of, financial statements, estimates, summaries and other financial analyses and management reports;
- take part in strategic decision making, including the setting of long-term goals, development of organizational and financing strategies, and decisions regarding products, services or programs as well as mergers and acquisitions;
- evaluate financial reporting, accounting and investing systems and make recommendations for changes to senior management; and
- participate in teams involved in marketing, design and development, procurement, process engineering, manufacturing and accounting.

Education, Training & Experience

- People in this group usually have a university degree, an accounting designation or a college diploma in business administration, economics, commerce or a related field. Most recent entrants have an undergraduate university degree or a community college diploma.
- They may also be required to complete a company or other management training program.
- They also need several years' experience in accounting, auditing, budgeting, financial planning and analysis or another financial activity.
- They may require a recognized accounting designation such as CGA (Certified General Accountant), CA (Chartered Accountant) or CMA (Certified Management Accountant).
- With experience, they may advance to senior management positions in financial management.

In These Occupations...

- 56,000 people were employed in 1998, an increase of 31.5% from 1988. This reflects an increase of 14.9% from 1988 to

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

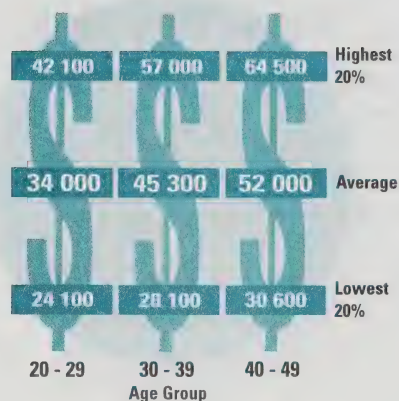
1993 and 14.4% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

- 7% work part-time, well below the average of 19% for all occupations.
- 11% are self-employed, compared to an average of 17% for all occupations.
- 51% are women, compared to an average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 1.5% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for management occupations and for occupations in the business, finance and administration sectors.
- the average earnings are comparable to those for other management occupations but are among the highest for occupations in the business, finance and administration sectors.

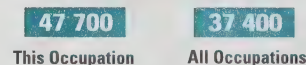
National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings for these managers is expected to increase more rapidly than the number of qualified, experienced job seekers.
- In an era of computerized financial reporting and management systems, financial managers need strong information systems skills.
- Employment requirements for this occupation are expected to increase through 2004 across a broad range of industries.

Earnings



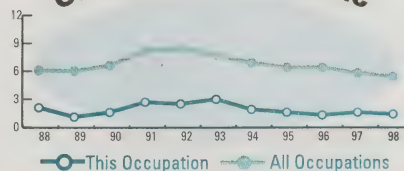
Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



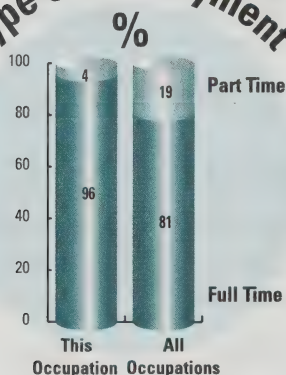
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Human Resource Managers

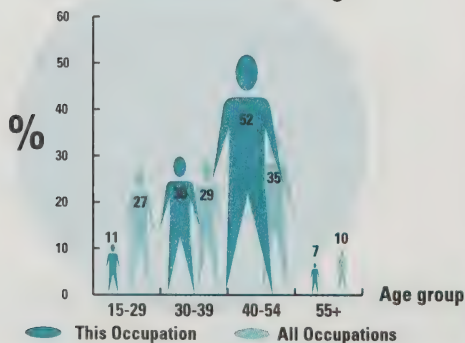
Where They Work



Type of Employment



Distribution by Age



At Work

These managers plan, organize, direct and control the operations of human resource and personnel departments in the private sector and government. Their duties may require them to:

- plan the human resource needs of an organization by consulting with other managers;
- coordinate training and recruiting;
- develop and implement labour relations policies and procedures, and negotiate collective agreements;
- administer employee development, language training and health and safety programs;
- oversee the classification and rating of occupations;
- organize and conduct employee information meetings on employment policy, benefits and compensation; and
- advise other departmental managers on interpretation and administration of personnel policies and programs.

Education, Training & Experience

- Human resource managers must either have a university degree in a field related to personnel management, such as business administration, industrial relations, commerce or psychology, or complete a professional development program in personnel administration. Many recent entrants have an undergraduate university degree.
- They must also have several years' experience as a personnel officer or human resource specialist.
- With experience, they may advance to senior management positions.

In These Occupations...

- 33,000 people were employed in 1998, a decrease of 1.0% from 1988. However, after declining 23.4% over the 1988 to 1993 period, employment increased 29.2% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 4% work part-time, well below the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.

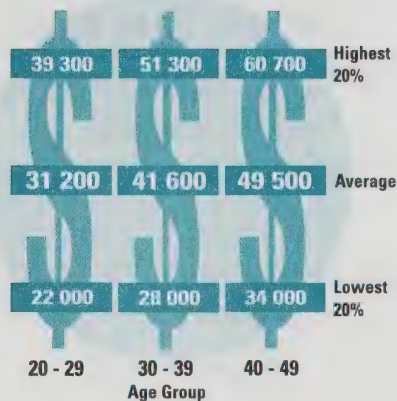
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 57% are women, well above the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 1.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for management occupations and for occupations in the business, finance and administration sectors.
- the average earnings are comparable to those for other management occupations but among the highest for occupations in the business, finance and administration sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings for these managers is expected to increase more rapidly than the number of qualified, experienced job seekers.
- Managers in this area will be increasingly involved in implementing and using computerized human resource management systems. This will require strong information systems skills.
- Employment requirements for this occupation are expected to increase through 2004 across a broad range of industries.

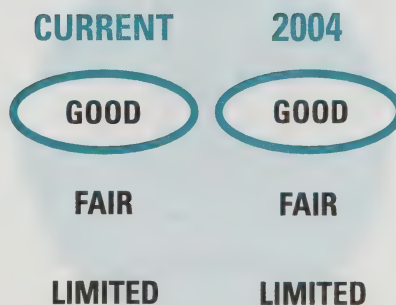
Earnings



Overall Average for All Ages (15+)

45 600	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



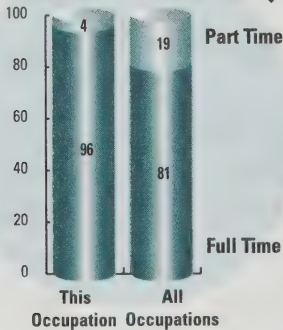
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Managers in Financial and Business Services

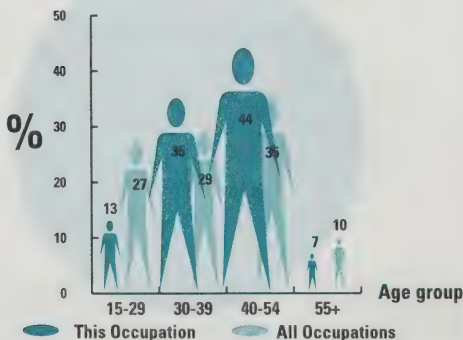
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in financial institutions, such as insurance and real estate firms, stock and mortgage brokerages, investment firms, security and commodity exchanges, banks and credit departments, and in marketing research and advertising firms.

- Insurance managers plan and direct the activities of organizations that sell auto, fire, life and other insurance, as well as health and financial services and products.
- Real estate managers plan and direct the activities of organizations engaged in the sale, purchase, lease and property management of residential, commercial, industrial and other properties.
- Mortgage brokerage managers plan and direct the activities of organizations that find lenders and lending institutions on behalf of clients.
- Securities managers plan and direct the activities of organizations that buy and sell stocks, bonds and other investments on behalf of clients.
- Banking managers plan and direct branch operations or departments of banks, trust companies, credit unions and similar institutions.
- Credit managers plan and direct the activities of credit departments within industrial and commercial establishments.
- Business services managers plan and direct the activities of organizations such as market research and management consulting firms and personnel, advertising and other business services.

Education, Training & Experience

- These managers usually possess a university degree or college diploma in business administration, economics or another field related to the business service they provide. Most recent entrants have an undergraduate university degree or a community college diploma.
- They usually require several years' experience.
- They may need management experience and completion of company or other management training programs.
- Some managers may also have to obtain professional licences, certification or registration.

**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

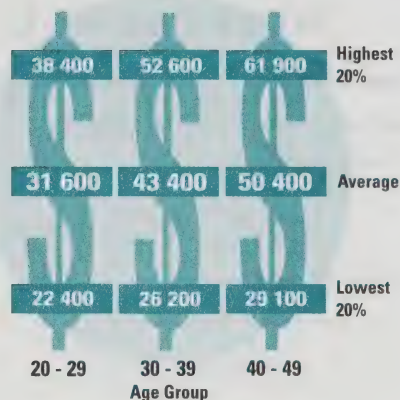
In These Occupations...

- 105,000 people were employed in 1998, an increase of 36.4% from 1988. After employment gains of 23.4% from 1988 to 1993, employment growth slowed to 10.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 56% work as banking, credit and other investment managers and 30% work as insurance, real estate and financial brokerage managers.
- 4% work part-time, well below the average of 19% for all occupations.
- 7% are self-employed, well below the average of 17% for all occupations.
- 54% are women, compared to an average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 2.2% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the business, finance and administration sectors.
- the average earnings are comparable to those for other managerial occupations but are among the highest for occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings for these managers is expected to be matched by the number of qualified job seekers.
- Technological change has raised the skill requirements for this group, as computerized financial systems, automatic teller machines and real estate listing services are widespread in the finance, insurance and real estate industry.
- Telecommunications technologies are also changing the speed, volume and complexity of the information that financial managers must analyse to make decisions.
- Most of the increase in employment requirements through 2004 in these occupations is expected to occur in the financial, insurance and real estate and business services industries.

Earnings



Overall Average for All Ages (15+)

46 500	37 400
This Occupation	All Occupations

Work Prospects



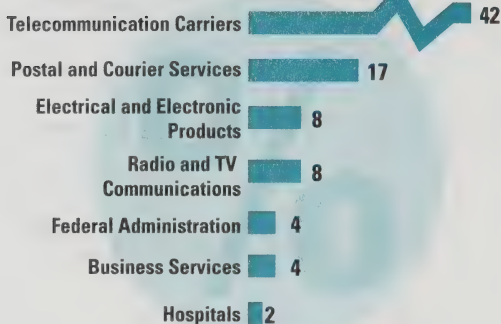
Unemployment Rate



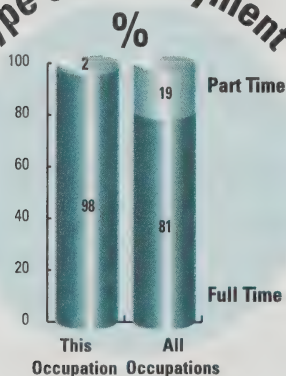
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Managers in Communication (Except Broadcasting)

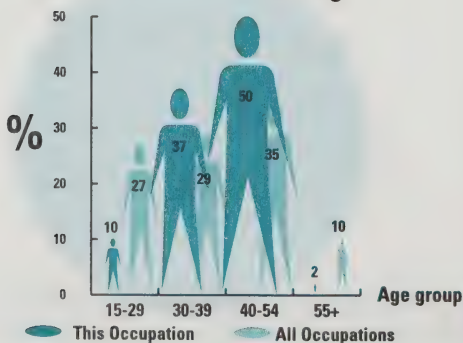
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in telephone, telegraph, satellite and other telecommunication companies, and in Canada Post Corporation and courier companies.

- Telecommunication carrier managers plan and direct the operations of telecommunication organizations and facilities. They analyze and evaluate telecommunication installation, operation and maintenance services and recommend improvements.
- Postal and courier service managers plan and direct the activities and operations of postal facilities, courier service companies or Canada Post divisions. They review the effectiveness of their services and make required changes.

Education, Training & Experience

- These managers usually require a university degree or college diploma. Many recent entrants have an undergraduate university degree.
- Telecommunication carrier managers usually must have a university degree or college diploma in science, electrical or electronics engineering or a related field and several years' experience, including supervisory experience, in a related technical occupation.
- Postal and courier service managers usually need several years' supervisory or operational experience.

In These Occupations...

- 20,000 people were employed in 1998, an increase of 63.1% from 1988. After employment gains of 22.1% from 1988 to 1993, employment grew 33.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 79% are telecommunication carrier managers and 21% are postal and courier service managers.
- 2% work part-time, well below the average of 19% for all occupations.
- 5% are self-employed, well below the average of 17% for all occupations.
- 41% are women, compared to an average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.

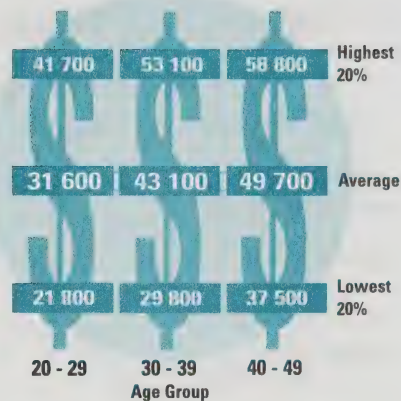
*Check out the 'big picture' in
'World of Work: Overviews and Trends'*

- the unemployment rate averaged 0.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for managerial occupations and occupations in the business, finance and administration sectors.
- the average earnings are comparable to those for other managerial occupations but are among the highest for occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings for these managers is expected to be matched by the number of qualified job seekers.
- With rapidly changing telecommunications technology, individuals with both appropriate formal education and specific experience in information technology will be more successful in the job market.
- Most of the increase in employment requirements through 2004 in these occupations is expected to occur in the telecommunication carriers industry.

Earnings



Overall Average for All Ages (15+)

45 600	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



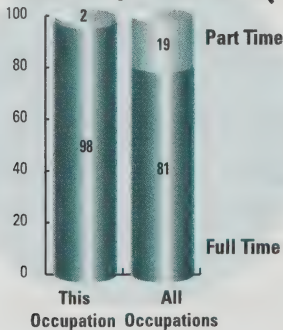
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Managers in Engineering, Architecture, Science and Information Systems

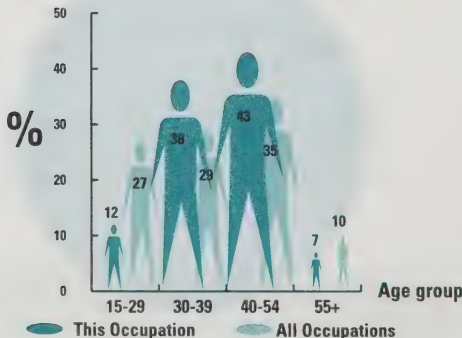
Where They Work



Type of Employment



Distribution by Age



At Work

These managers work in engineering consulting and scientific research companies, architectural firms, government and a wide range of private sector organizations.

- Engineering managers plan and direct the operations of engineering departments, services and firms engaged in consulting, research and other engineering activities.
- Architecture managers, including directors, vice-presidents, principals-in-charge and project architects, plan and direct the operations of organizations specializing in residential, commercial, industrial or institutional architecture or in all types.
- Landscape architecture managers plan and direct the operations of landscape architecture organizations.
- Science managers plan and direct the operations of research and development laboratories, quality control departments and other scientific organizations.
- Information systems and data processing managers plan and direct the operations of information systems and data processing organizations.

Education, Training & Experience

- In general, these managers require a university degree or a technical diploma in their occupational area and several years' experience, including supervisory experience. Most recent entrants have an undergraduate university degree or a community college diploma.
- Engineering managers need a bachelor's degree in engineering or a college diploma in engineering technology and must usually be registered as a Professional Engineer (P.Eng./ing.) or certified as a technologist (CET or ASCT) by their provincial or territorial professional association.
- Architecture managers must be licensed as a professional in their field. Registration requires a minimum of three years of experience and a degree from an accredited university.
- Science managers need a master's or doctoral degree in a scientific discipline.
- Information systems and data processing managers usually have a bachelor's or master's degree in computer science, business administration, commerce or engineering or a technical diploma in a related area.

**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

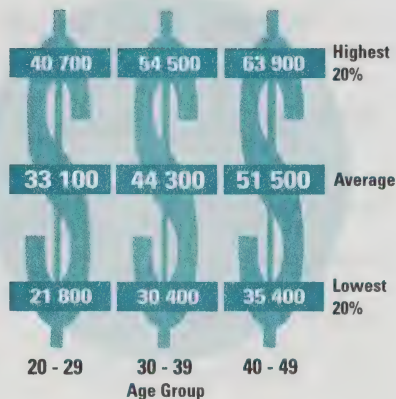
In These Occupations...

- 65,000 people were employed in 1998, an increase of 97.6% from 1988. After declining 0.4% over the 1988 to 1993 period, employment increased 98.3% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 51% are engineering, science and architecture managers and 49% are information systems and data processing managers.
- 3% work part-time, well below the average of 19% for all occupations.
- 11% are self-employed, compared to an average of 17% for all occupations.
- 24% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 1.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for managerial occupations and for occupations in the natural and applied sciences sectors.
- the average earnings are comparable to those for other managerial occupations and for other occupations in the natural and applied sciences sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are well above average and earnings are above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings for these managers is expected to be matched by the number of qualified job seekers.
- Many managers in information systems and data processing will need skill upgrading (professional development) or a master's degree for promotion to more senior positions. Management of the design and implementation of computer networks is currently an area where demand is very strong.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the business services and professional services industries.

Earnings



Overall Average for All Ages (15+)

47 000	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

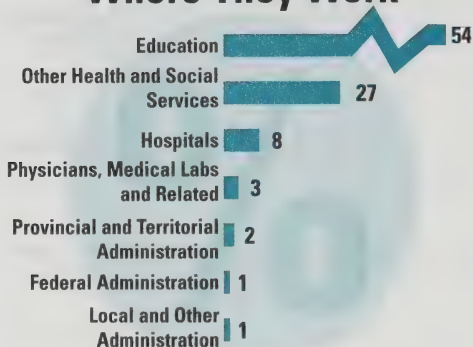
Unemployment Rate



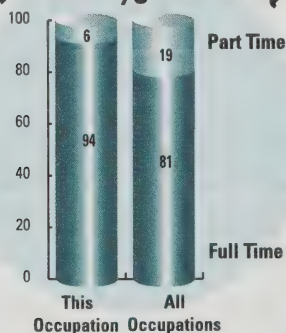
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Managers in Health, Education, Social and Community Services

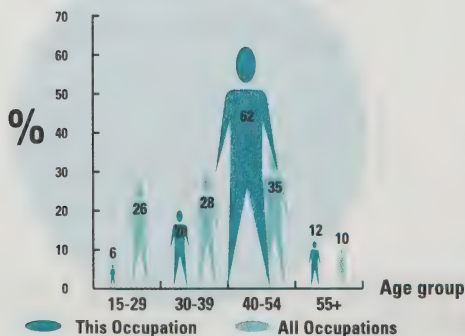
Where They Work



Type of Employment



Distribution by Age



At Work

These managers work in hospitals and other health care institutions, educational institutions, social service and community agencies, correctional facilities, professional associations, political parties and other organizations.

- Managers in health care plan and direct the delivery of nursing, therapy, treatment and other services in hospitals and other health care organizations.
- Faculty administrators plan and direct academic and related activities of faculties. Registrars manage the registration activities and academic records at community colleges and universities.
- School principals plan and direct the activities of teachers and other staff in elementary and secondary schools.
- Vocational training school administrators plan and direct the activities of schools specializing in trades, business, technology and other vocational subjects.
- Administrators in elementary and secondary education plan and direct the academic affairs of a school district or system.
- Managers in social, community and correctional services plan and direct social and community service programs, labour and professional associations, non-governmental organizations promoting social issues, political party offices and the operations of correctional facilities.

Education, Training & Experience

- These managers usually require a bachelor's degree and, in some cases, a graduate degree in their field. Many recent entrants have an undergraduate university degree.
- They usually need several years' experience in a relevant profession, including supervisory experience.
- Health care managers and administrators usually have the same educational qualifications as the people they manage, such as physicians, dietitians and physiotherapists.
- Elementary and high school principals and administrators must have a teacher's certificate and several years' experience as senior teachers or department heads.

In These Occupations...

- 90,000 people were employed in 1998, an increase of 41.9% from 1988. After employment gains of 33.9% from 1988 to 1993, employment growth slowed to 6.0% from 1993 to

*Check out the 'big picture' in
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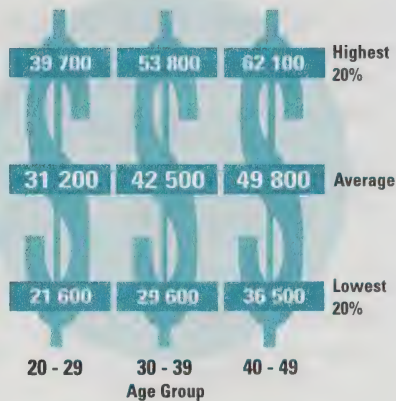
1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

- 40% are school principals and administrators of elementary and secondary education; 26% are managers in health care; and 21% are managers in social, community and correctional services.
- 6% work part-time, well below the average of 19% for all occupations.
- 3% are self-employed, well below the average of 17% for all occupations.
- 59% are women, well above the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 1.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for managerial occupations.
- the average earnings are comparable to those for other managerial occupations.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are above average and earnings are well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings for these managers is expected to increase more rapidly than the number of qualified, experienced job seekers.
- Fiscal decisions by governments and the restructuring of health and medical services may affect employment opportunities in these occupations. The best opportunities for health service managers may be in the private sector - for example, managing nursing homes. Social and community service managers may also have opportunities in the private sector.
- Administrators in all these areas will need good information systems skills, as they will need to work increasingly with computerized database and financial management systems.
- Most of the increase in employment requirements through 2004 in these occupations is expected to occur in the education and health and social services industries.

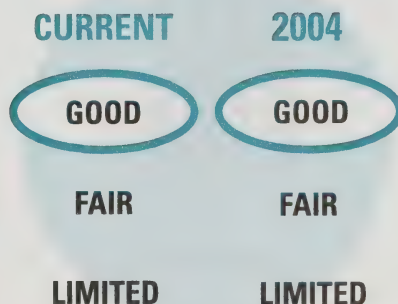
Earnings



Overall Average for All Ages (15+)

46 100	37 400
This Occupation	All Occupations

Work Prospects



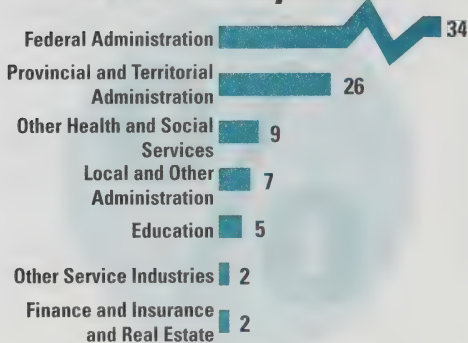
Unemployment Rate



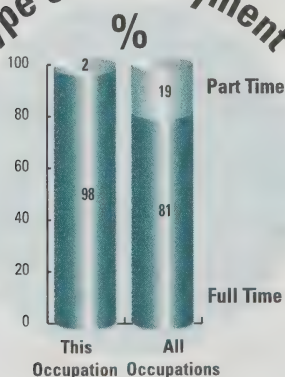
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Managers in Public Administration

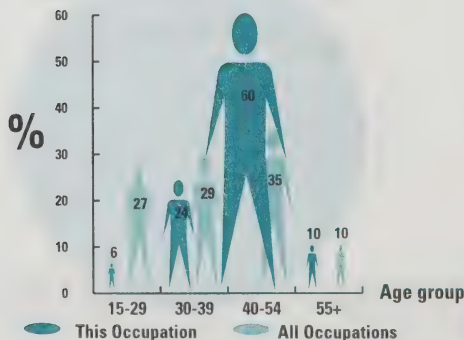
Where They Work



Type of Employment



Distribution by Age



At Work

These managers work in government departments, agencies and legislative bodies. They direct the development, implementation and evaluation of government policies, research and programs, and manage and control human and financial resources.

- Government managers in health and social fields are concerned with the protection and promotion of health and social welfare for individuals and communities.
- Government managers in the field of economics are involved in areas such as taxation, labour markets, transportation, international trade and business development.
- Government managers in educational fields deal with elementary, high school, community college and university education.
- Other government public administration managers direct the operations of legislatures and other activities such as intergovernmental affairs and elections.

Education, Training & Experience

- Most of these managers require a bachelor's degree related to their work and may also need a graduate degree. Many recent entrants have an undergraduate university degree.
- They usually require several years' experience in their profession or have government experience in specific areas of policy development, research or program administration.
- Some managers in health and social policy may need a college diploma, rather than a university degree, in their field of work.
- Some managers in health policy and program administration may require certification in a health profession. For example, city medical officers of health must be physicians.
- Managers in educational policy and program administration must have provincial teaching certificates.
- With experience, they may advance to senior management positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

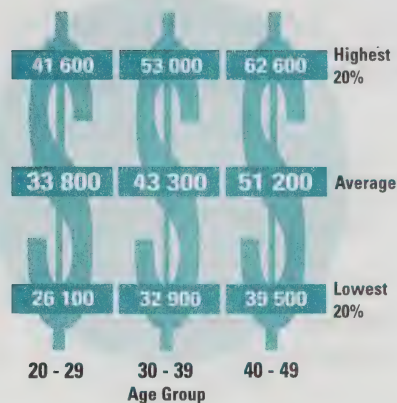
In These Occupations...

- 17,000 people were employed in 1998, an increase of 25.0% from 1988. However, after rising 26.1% over the 1988 to 1993 period, employment decreased 0.8% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 43% are government managers in economic analysis; 27% are government managers in health and social policy; and 11% are government managers in education policy development.
- 2% work part-time, well below the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 39% are women, compared to an average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 1.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for managerial occupations.
- the average earnings are comparable to those for other managerial occupations.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings for these managers is expected to be matched by the number of qualified job seekers.
- The best prospects for these managers may be in the area of information systems.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in various levels of public administration and in the health and social services industries.

Earnings



Overall Average for All Ages (15+)

47 200	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Managers in Art, Culture, Recreation and Sport

Where They Work



At Work

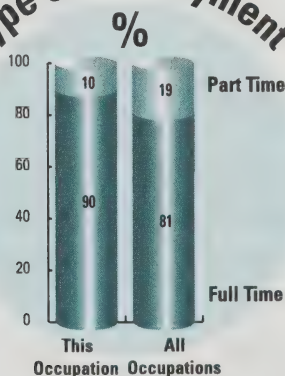
These managers work in libraries, archives, museums and art galleries; for newspapers and book, magazine and other publishers; in motion picture, broadcasting and other performing arts institutions; in recreation and sports centres; and in government.

- Managers of libraries, archives, museums and art galleries plan and direct the activities of these organizations or technical departments within them.
- Managers in publishing, motion pictures, broadcasting and other performing arts plan and direct the operations of newspapers, publishing firms, radio and television stations, and film, theatre, record and video production companies.
- Managers in recreation and sport plan and direct the activities, projects and operations of recreational facilities and sports programs and services. They also manage professional athletic teams and national and provincial sports agencies.

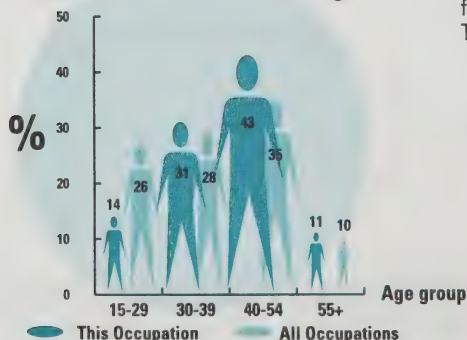
Education, Training & Experience

- Most of these managers require advanced university degrees and several years' experience in their profession, field or industry. In some instances, appropriate work experience may serve as a substitute for educational qualifications. Some may need supervisory experience. Many recent entrants have an undergraduate university degree.
- Library managers must have a graduate degree in library and information science.
- Archive managers need a graduate degree in archival science or history.
- Museum and art gallery managers usually require a graduate degree related to arts administration.
- Managers in publishing, motion pictures and other performing arts have a university degree or college diploma in communications, journalism, broadcasting or another arts discipline.
- Recreation and sports managers need a university degree in recreology, physical education, sports administration or a related field, or a college diploma in recreation or sports administration. They may require certification in an area such as coaching.

Type of Employment



Distribution by Age



*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

In These Occupations...

20,000 people were employed in 1998, an increase of 62.0% from 1988. After employment gains of 49.6% from 1988 to 1993, employment growth slowed to 8.3% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

42% are managers in publishing, motion pictures, broadcasting and performing arts; 41% are recreation and sport program and service directors; and 17% are library, archive, museum and art gallery managers.

11% work part-time, compared to an average of 19% for all occupations.

19% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.

52% are women, compared to the average of 45% for all occupations.

the unemployment rate averaged 4.2% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for managerial occupations.

the average earnings are comparable to those for other managerial occupations but among the highest for occupations in the art, culture, recreation and sport sectors.

employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are above average and earnings are well above average.

Over the next five years, this outlook is not expected to change, as the number of job openings for these managers is expected to be matched by the number of qualified job seekers.

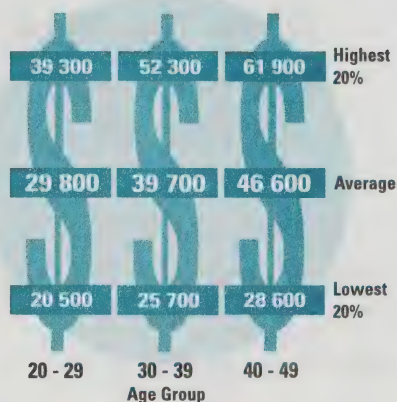
There may be shortages of administrators with fund-raising and market-development skills. Technological change will affect many of these occupations, as their function moves increasingly toward conceiving and managing information systems.

Competition is expected to be keen for managerial positions in libraries and galleries as government spending restrictions limit the availability of positions. Library and archive managers may find opportunities in the private sector managing corporate memory systems.

All of Canada's producers of cultural material are looking increasingly to export markets. Consequently, they need managers with specialized export marketing and promotion skills.

Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the amusement and recreation services and printing and publishing industries.

Earnings



Overall Average for All Ages (15+)

43 000	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

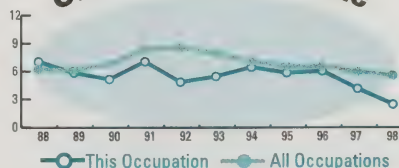
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



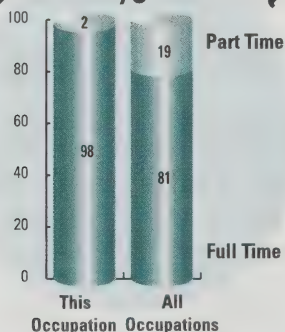
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Sales, Marketing and Advertising Managers

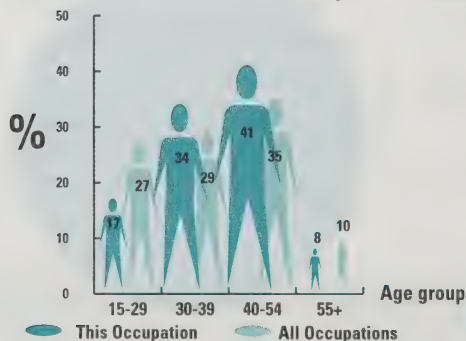
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupational group work in commercial, industrial and wholesale organizations; marketing and public relations consulting companies; and government departments.

- Sales managers plan and direct the activities of sales departments of commercial, industrial, wholesale and other non-retail organizations.
- Marketing managers plan and direct the activities of organizations that develop marketing strategies to promote the sale of products and services. They also establish distribution networks for these products and services.
- Advertising managers plan and direct the activities of organizations that develop and carry out advertising campaigns to promote the sale of products and services.
- Public relations managers plan and direct the activities of organizations that develop and implement communications strategies and information programs, publicize activities and events, and maintain media relations on behalf of clients.

This occupational group also includes communications directors, fund-raising campaign managers, and media relations, promotions and sales and marketing managers.

Education, Training & Experience

- These managers require a college diploma or university degree. In some cases, appropriate work experience may serve as a substitute for these educational qualifications. Many recent entrants have an undergraduate university degree.
- Sales and marketing managers need a college diploma or university degree in business administration or a related field with a sales or marketing specialization and several years' experience as sales and marketing representatives. According to the Canadian Professional Sales Association, managers may need a certified sales professional designation.
- Advertising and public relations managers must have a college diploma or university degree in public relations, communications, marketing, journalism or a related field, and several years' experience as advertising, public relations and communications officers.
- With experience, they may move to senior management positions.

**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

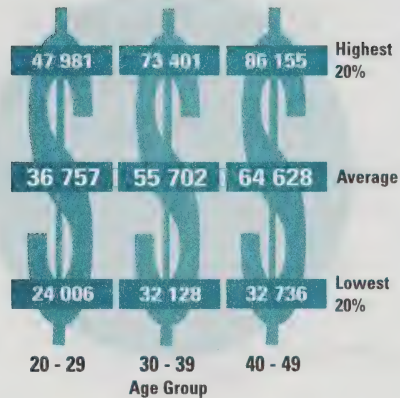
In These Occupations...

- 123,000 people were employed in 1998, an increase of 21.6% from 1988. After employment gains of 8.9% from 1988 to 1993, employment grew 11.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 3% work part-time, well below the average of 19% for all occupations.
- 15% are self-employed, compared to an average of 17% for all occupations.
- 31% are women, well below the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 2.4% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the sales and service sectors.
- the average earnings are comparable to those for other managerial occupations but are among the highest for occupations in the sales and service sectors.

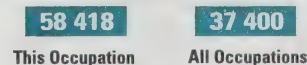
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change. The Canadian Sales Management Association predicts that over this period growth in sales management opportunities will outpace growth in the supply of qualified candidates.
- Development of electronic methods of sales and marketing, in particular through the Internet, means that these managers will need to develop expertise in this area. Familiarity with desktop publishing and with external database technologies may also be important for these managers.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the wholesale trade, business services and advertising industries.

Earnings



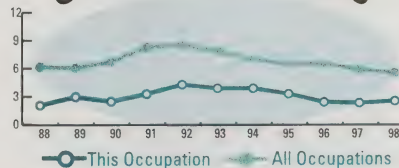
Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



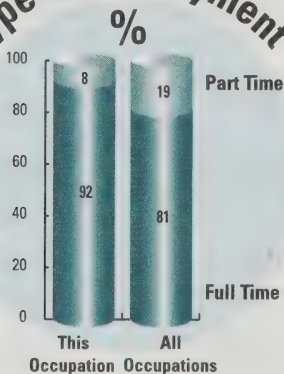
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Managers in Retail Trade

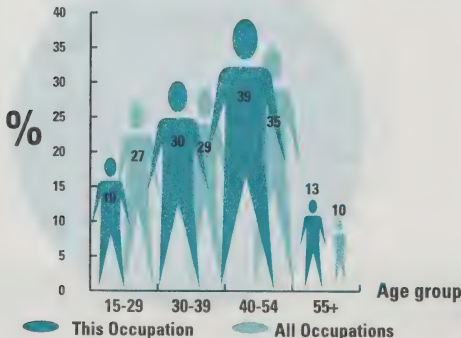
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupational group work in department and chain stores, travel agencies, supermarkets, car dealerships and other retail organizations. They may own and operate their own retail business or operate a retail business for its owner. Their duties may require them to:

- plan and direct the operations of organizations engaged in retail sales;
- manage staff and assign duties;
- study market research and trends to determine consumer demand, potential sales volumes and the effect of competitors' operations;
- determine, locate and select merchandise and services to be sold;
- implement price and credit policies;
- develop and implement marketing strategies;
- plan budgets and authorize expenditures;
- carry out the organization's banking; and
- determine staffing requirements and hire, or oversee hiring of, staff.

This occupational group also includes antique dealers, boat dealers, and managers of bookstores, car dealerships, clothing stores, department stores, service stations, sporting goods stores, supermarkets, travel agencies and variety stores.

Education, Training & Experience

- Retail trade managers must usually have a high school diploma.
- They may require a college diploma or university degree in business administration or in a field related to the product or service sold at their place of work.
- They usually require several years' retail sales experience, including some supervisory experience.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

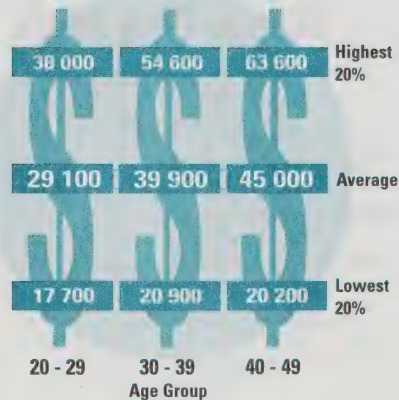
In These Occupations...

- 393,000 people were employed in 1998, an increase of 15.7% from 1988. After employment gains of 10.7% from 1988 to 1993, employment growth slowed to 4.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 8% work part-time, well below the average of 19% for all occupations.
- 46% are self-employed, well above the average of 17% for all occupations.
- 40% are women, compared to an average of 45% for all occupations.
- the unemployment rate averaged 3.2% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the sales and service sectors.
- the average earnings are comparable to those for other managerial occupations but are among the highest for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are above the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings for these managers is expected to be matched by the number of qualified job seekers.
- Retailing firms will continue to improve their operations using point-of-sale data entry, computerized inventory control, computerized order entry, electronic scanning and telecommunications technologies. Managers will need to be familiar with these systems.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the retail trade industry.

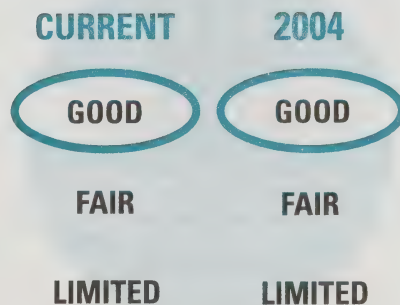
Earnings



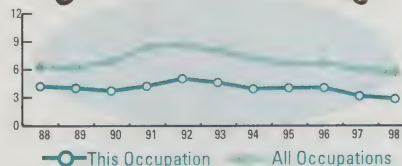
Overall Average for All Ages (15+)

41 500	37 400
This Occupation	All Occupations

Work Prospects



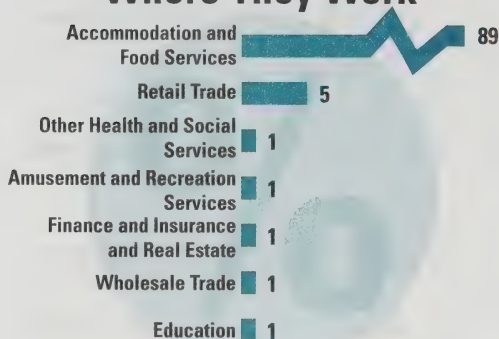
Unemployment Rate



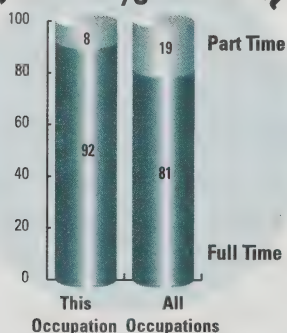
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Managers in Food Service and Accommodation

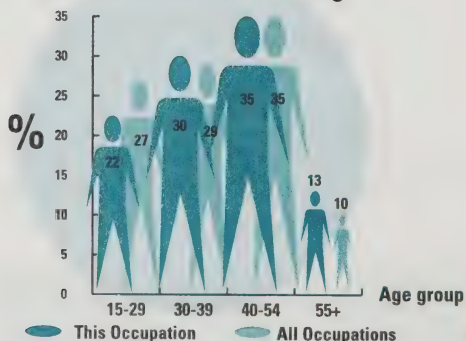
Where They Work



Type of Employment



Distribution by Age



At Work

These managers work in restaurants, hotels, motels, student residences, resorts, private clubs, bars and other food service and accommodation facilities.

- Restaurant and food service managers plan and direct the operations of restaurants, bars, cafeterias and formal dining rooms. They determine the type of service to be offered, prepare staff schedules, monitor staff performance and control the costs and inventories of food and beverages. They must be aware of the laws and regulations regarding the sale of alcohol and must ensure that health and safety regulations are followed.
- Accommodation service managers plan and direct the operations of hotels, motels, resorts, student residences and similar organizations or departments within these facilities. They prepare budgets, monitor expenses and schedule and supervise staff.

This occupational group also includes banquet, bar, cafeteria and catering service managers; hotel directors and managers; guest house, tourist home and bed and breakfast operators; and reservations managers.

Education, Training & Experience

- These managers must have a high school diploma.
- Restaurant and food service managers usually require a college or other diploma in food and beverage management, hospitality or a related field. They must have several years' experience, including supervisory experience.
- Accommodation service managers usually require a college diploma or university degree in hotel management or a related discipline if they are employed by hotel chains or other large organizations. They usually need several years' experience, and this experience may replace formal education.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

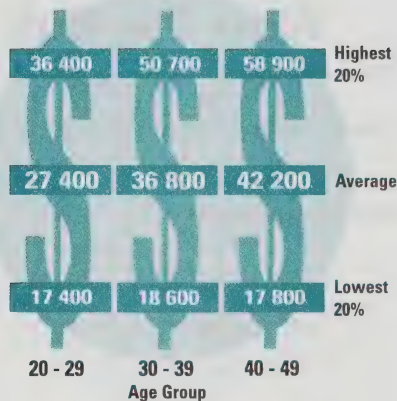
In These Occupations...

- 159,000 people were employed in 1998, an increase of 31.8% from 1988. After employment gains of 17.4% from 1988 to 1993, employment growth slowed to 12.3% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 81% are restaurant and food service managers; and 19% are accommodation service managers.
- 8% work part-time, well below the average of 19% for all occupations.
- 54% are self-employed, well above the average of 17% for all occupations.
- 44% are women, compared to an average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 4.4% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for managerial occupations.
- the average earnings are among the lowest for managerial occupations but among the highest for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings for these managers is expected to be matched by the number of qualified job seekers.
- Use of computerized ordering systems, reservation systems, inventory control, in-room management systems and property management systems will continue to increase in this sector. Managers will need to be familiar with these systems.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the accommodation and food services industry.

Earnings



Overall Average for All Ages (15+)

39 000	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

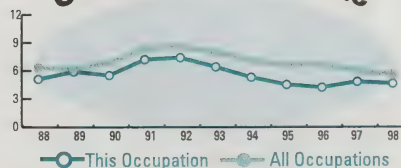
FAIR

FAIR

LIMITED

LIMITED

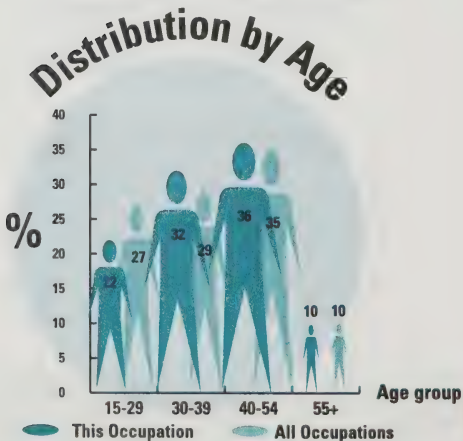
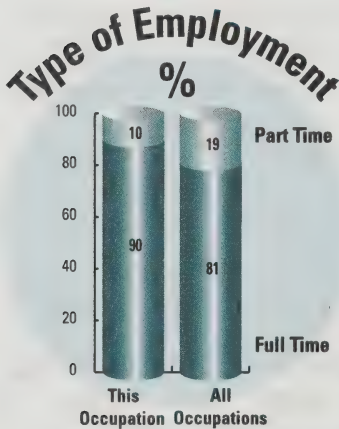
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Managers in Other Services

Where They Work



At Work

These service managers work for organizations that provide services such as dry cleaning, hairdressing, and commercial, industrial and residential cleaning, and schools that provide instruction in activities such as driving, language, music, cooking and dance. Their duties may require them to:

- plan and direct the operations at their places of business;
- establish or implement policies and procedures for staff;
- plan and control budgets and inventories;
- respond to questions and complaints and resolve problems;
- manage contracts for advertising and marketing strategies; and
- hire, train and supervise staff.

Education, Training & Experience

- These managers usually require a high school diploma.
- They may need a college diploma or, if they are managing a school, a vocational certificate in their course of instruction.
- Most recent entrants have a high school or community college diploma.
- They usually need one to three years' experience.

In These Occupations...

- 17,000 people were employed in 1998, an increase of 47.8% from 1988. This reflects an increase of 20.4% from 1988 to 1993 and 22.8% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 10% work part-time, compared to an average of 19% for all occupations.
- 29% are self-employed, well above the average of 17% for all occupations.
- 49% are women, compared to an average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 2.4% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the sales and service sectors.

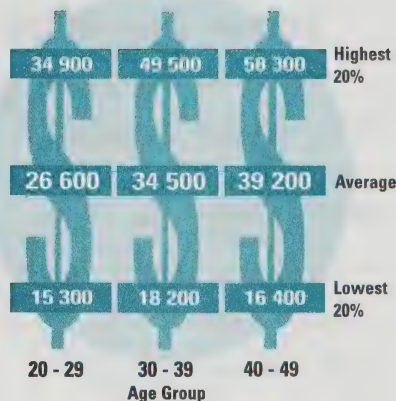
**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

- the average earnings are among the lowest for managerial occupations but are comparable to those for other occupations in the sales and service sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are above average, but earnings are below the average level for comparable occupations.
- Over the next five year, this outlook is not expected the change, as the number of job openings for these managers is expected to be matched by the number of qualified job seekers.
- Computerization and new telecommunications technologies will increasingly affect jobs in this sector. Managers will need to be familiar with these technologies.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the personal and household services industry.

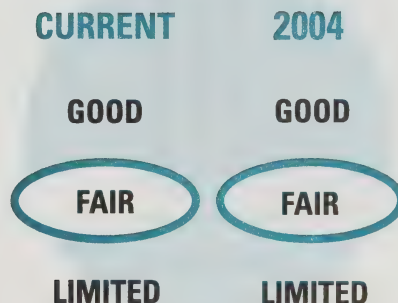
Earnings



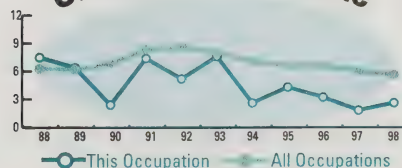
Overall Average for All Ages (15+)



Work Prospects



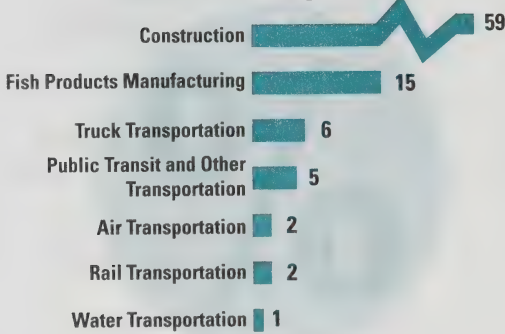
Unemployment Rate



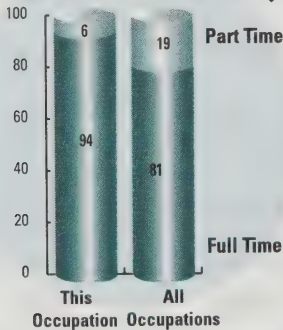
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Managers in Construction and Transportation

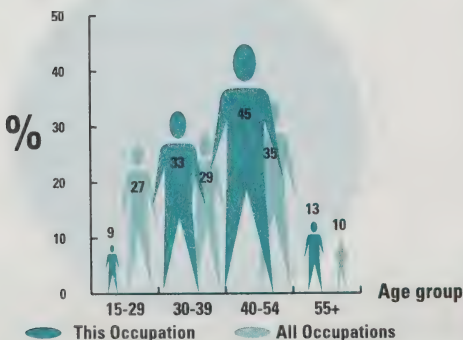
Where They Work



Type of Employment



Distribution by Age



At Work

These managers work in construction, transportation, freight forwarding and shipping companies, and in the transportation departments of companies in retail and manufacturing sectors and utilities.

- Construction managers plan and direct the operations of organizations engaged in residential, commercial, institutional and industrial construction.
- Residential home builders and renovators plan and direct the activities of their own companies. They prepare bids for projects; consult with customers, architects and engineers; employ subcontractors; prepare work schedules; and oversee work.
- Transportation managers of operations plan and direct the operations of companies such as airlines, railways and municipal transit systems. They set policies and standards, including safety procedures for handling dangerous goods, and oversee the dispatch of vehicles, vessels and aircraft.
- Transportation managers of freight traffic plan and direct companies responsible for coordinating, arranging and monitoring the transportation and movement of goods.

Education, Training & Experience

- These managers have different requirements depending on the area of work. Many recent entrants have a post-secondary diploma or degree.
- Construction managers usually require a college diploma in construction technology or a university degree in civil engineering and several years' experience.
- Residential home builders and renovators usually need extensive experience in residential construction.
- Transportation managers of operations usually have a bachelor's degree in business administration or engineering; several years' experience, including supervisory experience; and certification as commercial pilots, vessel masters or other transportation operators. Extensive experience as a supervisor and operator in a particular mode of transportation may replace formal education.
- Transportation managers of freight traffic must complete high school and may require a college diploma or university degree in business or transportation administration. They require several years' experience related to freight traffic.

**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

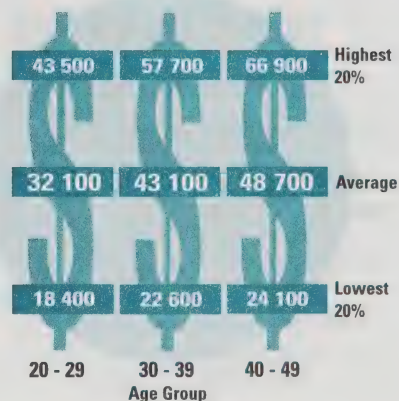
In These Occupations...

- 97,000 people were employed in 1998, an increase of 17.8% from 1988. After employment gains of 16.0% from 1988 to 1993, employment growth slowed to 1.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 50% are construction managers; 30% are residential home builders and renovators; and 19% are transportation managers.
- 7% work part-time, well below the average of 19% for all occupations.
- 61% are self-employed, well above the average of 17% for all occupations.
- 8% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 3.3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other managerial occupations but are among the highest for occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, the outlook is expected to improve to "Good". The number of job openings is expected to increase more rapidly than the available number of qualified job seekers, due to strong employment growth in the construction sector and a high retirement rate in these occupations.
- Advances in building materials, the development of smart buildings and the proliferation of new building standards will make the work of construction managers more complex.
- Increasing use of computerized technologies in the transportation industry, such as electronic inventory control and tracking systems, will mean that transportation managers need to develop skills in information systems.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the construction industry.

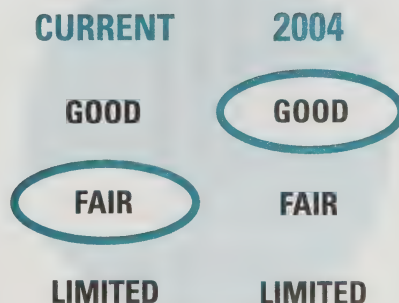
Earnings



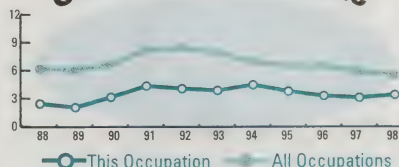
Overall Average for All Ages (15+)

41 400	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



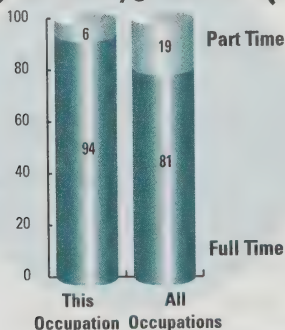
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Construction Managers

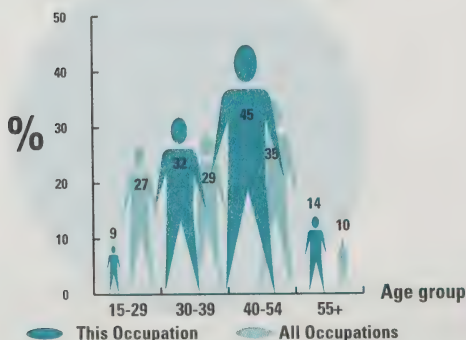
Where They Work



Type of Employment



Distribution by Age



At Work

Construction managers work in residential, commercial and industrial construction companies and in construction departments of companies outside the construction industry. Their duties may require them to:

- manage construction projects from start to finish according to schedules, specifications and budgets;
- prepare and submit construction project budget estimates;
- prepare schedules and milestones for projects, monitor progress and issue progress reports to clients;
- prepare contracts and negotiate changes with architects, consultants, clients, suppliers and subcontractors;
- develop and implement quality control programs;
- represent their companies in matters such as business services and union contract negotiations;
- direct the purchase of building materials and land acquisitions; and
- hire and supervise the activities of subcontractors and staff.

Education, Training & Experience

- Construction managers must usually have a university degree in civil engineering or a college diploma in construction technology as well as several years' experience in construction, including time spent as construction supervisors or field superintendents.
- If they have extensive experience in the construction industry, they may not need a college or university education.
- Some employers may require construction managers to have professional engineering status or construction trade certification.
- With experience, they may progress to senior management positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

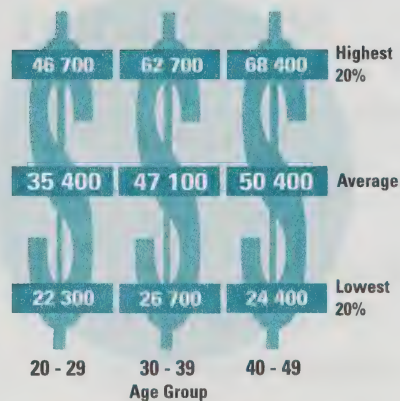
In These Occupations...

- 49,000 people were employed in 1998, an increase of 0.7% from 1988. However, after rising 5.4% over the 1988 to 1993 period, employment decreased 4.4% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 6% work part-time, well below the average of 19% for all occupations.
- 47% are self-employed, well above the average of 17% for all occupations.
- 7% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for managerial occupations but among the lowest for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other managerial occupations but are among the highest for occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are average, although earnings are above average.
- Over the next five year, this outlook is expected to improve to "Good", as the number of job openings for experienced construction managers is expected to increase more rapidly than the number of qualified, experienced job seekers.
- Advances in building materials, the development of smart buildings and the proliferation of new building standards will make the work of construction managers more complex.
- Continuing economic growth will mean that more large building projects will be undertaken, which will increase the number of job opportunities for qualified construction managers,
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the construction industry.

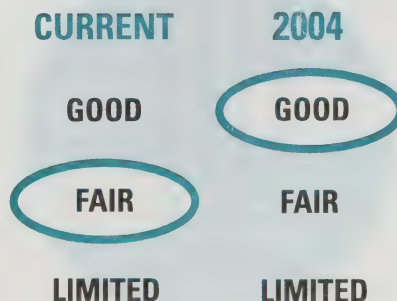
Earnings



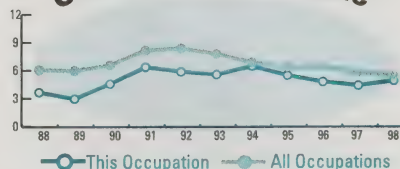
Overall Average for All Ages (15+)

43 500	37 400
This Occupation	All Occupations

Work Prospects



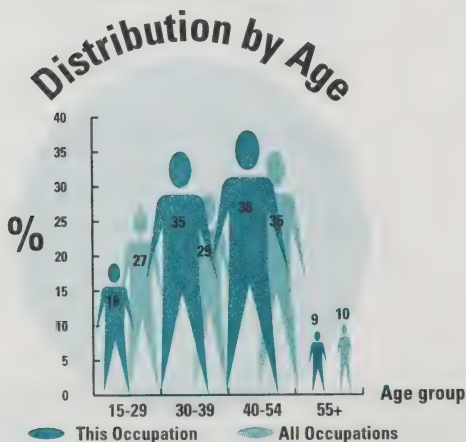
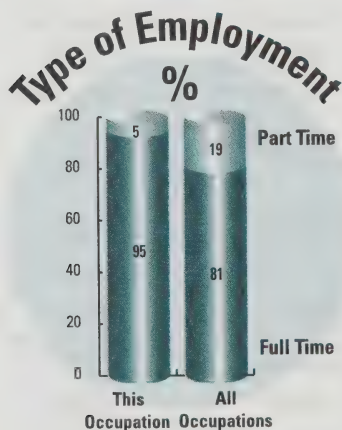
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Facility Operation and Maintenance Managers

Where They Work



At Work

These managers work in a wide variety of locations, including airports, harbours, canals, shopping and convention centres, warehouses, office buildings, grain terminals, sports facilities, schools and universities.

- Facility operation managers plan and direct the operations of commercial, transportation and recreational facilities. They oversee the leasing of facility space, manage the facility operational budget and arrange for maintenance, parking and other facility services.
- Maintenance managers plan and direct the operations of maintenance departments within commercial, industrial, institutional, recreational and other facilities. They direct the maintenance and repair of machinery, equipment, electrical and mechanical systems, and develop safety inspection schedules.

This occupation also includes facility operation managers such as arena and marina managers, and maintenance managers such as facilities maintenance heads and mechanical, plant maintenance and maintenance and service superintendents.

Education, Training & Experience

- These managers require post-secondary education or a combination of technical training and experience.
- Facility operation managers must complete a college or university program in business administration or in a discipline related to facility operation and maintenance, or have a combination of technical training and experience in administration or maintenance. They usually require five to ten years' experience in facility operation.
- Maintenance managers must complete a college or university program in electrical or mechanical engineering or in a discipline related to building maintenance, or have a combination of technical training and building maintenance experience. They usually require several years' supervisory experience.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

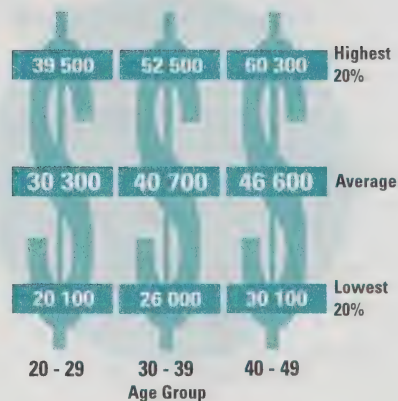
In These Occupations...

- 22,000 people were employed in 1998, an increase of 25.8% from 1988. This reflects an increase of 13.6% from 1988 to 1993 and 10.8% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 5% work part-time, well below the average of 19% for all occupations.
- 8% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has decreased significantly over the last ten years.
- 25% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 3.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other managerial occupations but are among the highest for occupations in the trades, transport and equipment operation sectors.

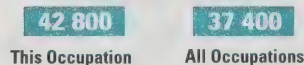
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both above the average levels for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings for these managers is expected to be matched by the number of qualified job seekers.
- Consolidation of facilities in the health care and educational sectors has a negative impact on the employment of these managers. Opportunities may increase in the private sector, as the construction of new commercial buildings picks up with economic recovery.
- Much of the increase in employment requirements through 2004 for these occupations is expected to occur in the wholesale trade, amusement and recreation services and finance, insurance and real estate industries.

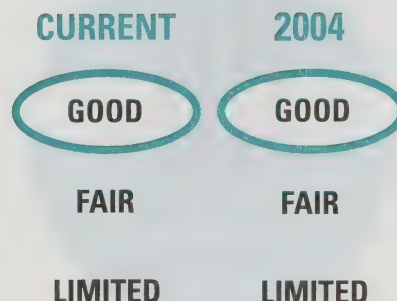
Earnings



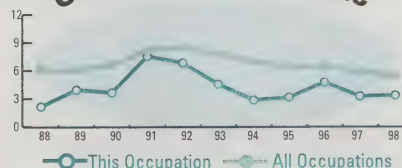
Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



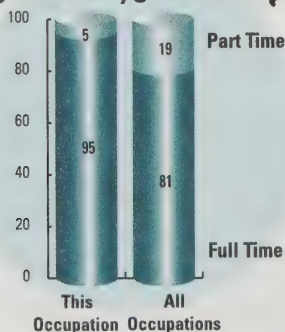
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Managers in Primary Production (Except Agriculture)

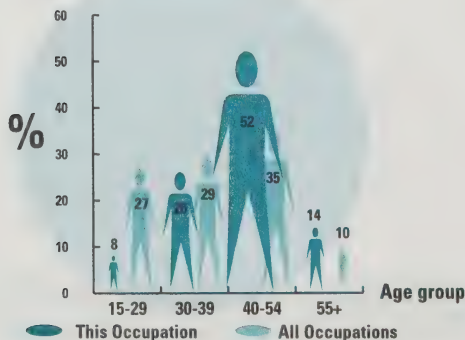
Where They Work



Type of Employment



Distribution by Age



At Work

These managers work in forestry and logging, mining and quarrying, oil and gas and commercial fishing companies, and organizations that provide services to these industries. Their duties may require them to:

- oversee and analyze operations in their companies by setting production quotas, planning extraction sites and developing policies for the removal of raw materials;
- recommend changes to senior management to make sure that their company meets production quotas and procedures;
- evaluate production sites to determine personnel, equipment and other requirements;
- prepare production reports;
- make sure that safety rules are followed;
- hire personnel and oversee staff training; and
- direct activities such as construction of access roads and temporary living quarters.

Education, Training & Experience

- These managers usually require a bachelor's degree related to their area of work.
- They usually also need several years' supervisory experience, which could replace formal education requirements.
- Forestry managers usually need a degree in forestry science or forest engineering.
- Mining and quarrying managers usually need a degree in mining engineering or earth sciences.
- Managers in oil and gas drilling, oil production and related services usually need a degree in geology, earth sciences or petroleum engineering.
- With experience, they may progress to senior management positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

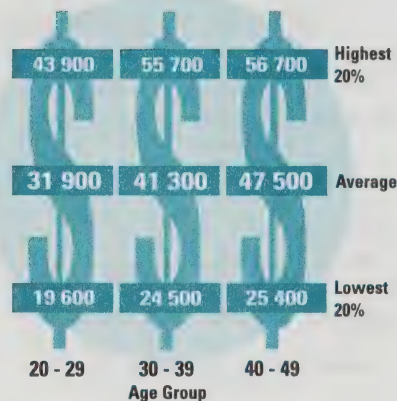
In These Occupations...

- 8,000 people were employed in 1998, an increase of 28.6% from 1988. After declining 12.5% over the 1988 to 1993 period, employment increased 47.0% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 5% work part-time, well below the average of 19% for all occupations.
- 21% are self-employed, compared to an average of 17% for all occupations.
- 10% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 2.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the primary industry sector.
- the average earnings are comparable to those for other managerial occupations but are among the highest for occupations in the primary industry sector.
- employment changes tend to mirror movements in overall economic activity.

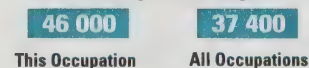
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are above average and earnings are well above average.
- Over the next five years, the outlook is expected to weaken to "Fair", as the number of qualified, experienced managers seeking work in these occupations is expected to exceed the number of available job openings.
- Competition for these managerial positions is expected to be keen, with a large number of experienced and qualified workers competing for promotion.
- Employment requirements for these occupations are expected to increase across a broad range of industries through 2004.

Earnings



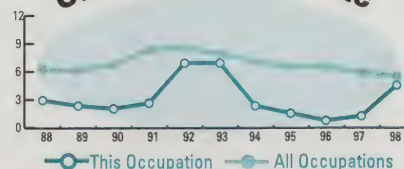
Overall Average for All Ages (15+)



Work Prospects



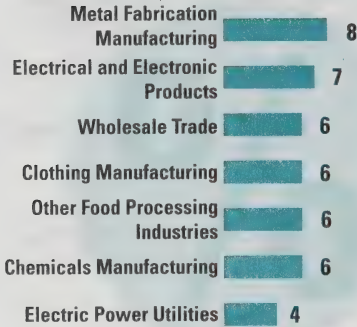
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Managers in Manufacturing and Utilities

Where They Work



At Work

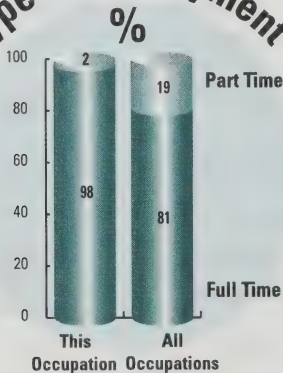
These managers work in manufacturing companies, public and private utilities and heating oil distribution companies.

- Manufacturing managers plan and direct the operations of manufacturing companies or production departments within organizations, usually under the direction of a general manager or other senior manager. They develop production schedules and implement changes to production equipment and systems.
- Utilities managers plan and direct the operations of utility companies or organizations providing services such as waste disposal and recycling and the distribution of water, electricity, natural gas and heating oil to residential, commercial and industrial consumers.

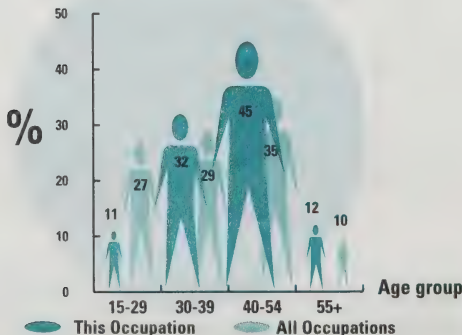
Education, Training & Experience

- These managers usually require a college or university degree in their area of work. In some instances, appropriate work experience may substitute for educational qualifications. Most recent entrants have an undergraduate university degree or a community college diploma.
- Manufacturing managers usually require a college diploma or university degree in engineering or business administration. They must also have five to ten years' supervisory experience in manufacturing.
- Utilities managers usually must have a college diploma or university degree in an appropriate discipline. For example, managers of transmission lines need a college or university electrical engineering program, and water supply managers require a college or university program in water resource technology.
- Utilities managers also need several years' supervisory experience in a related utilities operations department.
- Utilities managers involved in the transmission and distribution of electrical power, natural gas and heating oil usually require certification as a professional engineer (P.Eng./ing.).

Type of Employment



Distribution by Age



**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

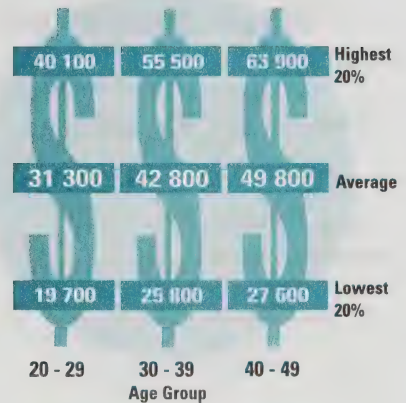
In These Occupations...

- 79,000 people were employed in 1998, an increase of 19.5% from 1988. After declining 1.3% over the 1988 to 1993 period, employment increased 21.0% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 88% work as managers in manufacturing and 12% work as managers in utilities.
- 2% work part-time, well below the average of 19% for all occupations.
- 16% are self-employed, compared to an average of 17% for all occupations.
- 17% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 2.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the processing, manufacturing and utilities sectors.
- the average earnings are comparable to those for other managerial occupations but are among the highest for occupations in the processing, manufacturing and utilities sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings for these managers is expected to be matched by the number of qualified job seekers.
- Competition to move up into these occupations is expected to be keen among a large number of highly qualified personnel at the supervisory level.
- Employment requirements in these occupations are expected to increase through 2004 across a broad range of manufacturing industries and utilities. The largest increases in employment requirements are expected to occur in the electrical and electronics products and non-electrical machinery industries.

Earnings



Overall Average for All Ages (15+)

45 700

This Occupation

37 400

All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

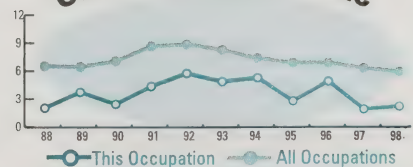
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Auditors, Accountants and Investment Professionals

Where They Work

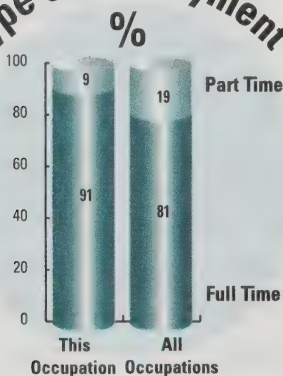


At Work

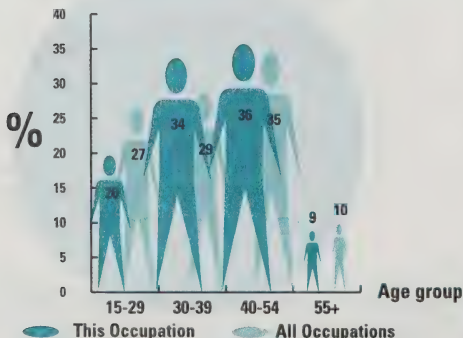
People in this group work in auditing and accounting firms, government, banks, trust companies, investment and underwriting firms, stock and mortgage brokerages, commodity exchanges and other companies and non-profit organizations. They may also be self-employed.

- Accountants examine and analyze accounting and financial records and plan, set up and administer accounting systems.
- Auditors audit financial records and provide opinions on the fairness of these records.
- Financial and investment analysts collect and analyze financial data to provide advice for their clients.
- Financial planners develop financial plans for clients.
- Securities agents and investment dealers and advisors buy and sell stocks, bonds and other securities for clients.
- Traders buy and sell stocks, commodity futures and other securities at stock exchanges on behalf of investment dealers.
- Financial examiners and forensic investigators examine financial records to ensure compliance with legislation and regulations.
- Financial investigators investigate trading activities.
- Investment underwriters underwrite new issues of stocks/bonds.
- Trust officers administer estate and other trusts.
- Mortgage brokers apply for loans on behalf of clients.

Type of Employment



Distribution by Age



Education, Training & Experience

- People in this group usually require a community college diploma or a bachelor's degree in economics, commerce, business administration or a related field. Most recent entrants have an undergraduate university degree.
- They usually also need industry courses and several years' on-the-job training.
- Most require provincial licences and certification by their professional associations.
- With experience, they may progress to senior management positions.

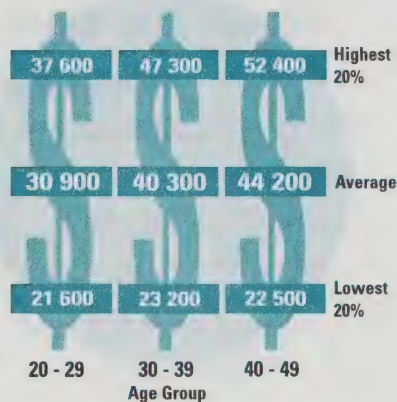
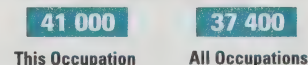
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

In These Occupations...

- 292,000 people were employed in 1998, an increase of 36.8% from 1988. Most of the growth occurred from 1993 to 1998 when employment increased 22.7%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 62% are financial auditors and accountants.
- 9% work part-time, compared to an average of 19% for all occupations.
- 22% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 49% are women, compared to an average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 2.7% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the business, finance and administration sectors.
- the average earnings are among the lowest for professional occupations but are among the highest for occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are well above average, although earnings are at the average level.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Most industries use computerized financial systems to monitor business finances. Other related applications that are being used are electronic funds transfer, automatic teller machines and electronic data interchange. These applications will lead to new skill requirements.
- Financial institutions increasingly seek professional client service managers with a broad range of financial sector skills.
- Most of the increase in employment requirements through 2004 in these occupations is expected to occur in the professional services, financial, insurance, real estate and business services industries.

Earnings**Overall Average for All Ages (15+)****Work Prospects****Unemployment Rate**

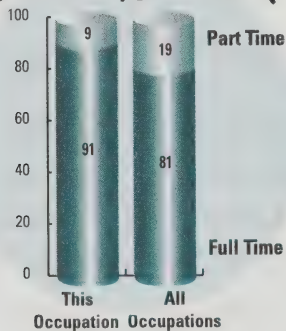
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Financial Auditors and Accountants

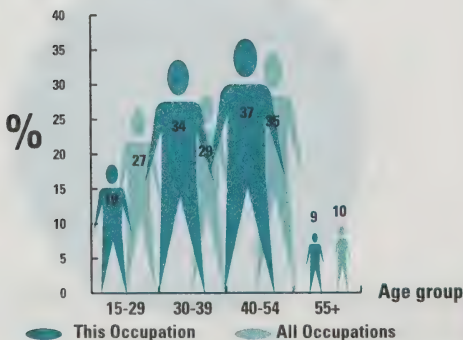
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupation work in government and in auditing and accounting firms throughout the private sector. They may also be self-employed.

- Financial auditors examine the accounting and financial records of individuals and establishments. They analyze records such as bank statements, tax returns and ledger entries for accuracy and attest that the records comply with proper accounting procedures.
- Accountants plan, organize and administer accounting systems and prepare financial information for individuals, companies and other organizations.

Education, Training & Experience

- People in this occupation must generally have some college or university education related to accounting, complete an accredited professional accounting program and have several years' on-the-job training. Most recent entrants have an undergraduate university degree. As well, they must be accredited by their professional associations and usually require a provincial or territorial licence to practise public accounting.
- Financial auditors must complete the requirements to be an accountant plus have some experience as an accountant.
- Chartered accountants must have a university degree and be accredited by the Institute of Chartered Accountants. In Quebec, they must be members of the Ordre des comptables agréés du Québec.
- Certified general accountants must be accredited by the Certified General Accountants Association. In Quebec, they must be members of the Ordre des comptables généraux licenciés du Québec.
- Certified management accountants must have a university degree and be accredited by the Society of Management Accountants. In Quebec, they must be members of the Ordre professionnel des comptables en management accrédités du Québec.
- With experience, people in this occupation can progress to management positions in auditing and accounting.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

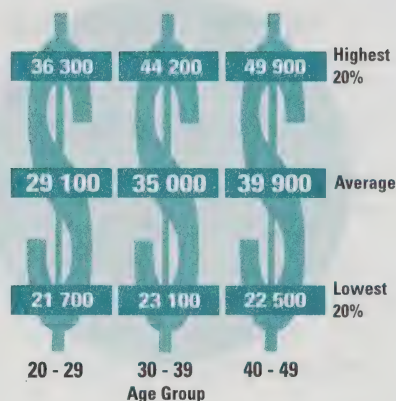
In These Occupations...

- 181,000 people were employed in 1998, an increase of 28.6% from 1988. This reflects an increase of 14.8% from 1988 to 1993 and 12.0% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 9% work part-time, compared to an average of 19% for all occupations.
- 25% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 53% are women, compared to an average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 3.3% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for professional occupations but are comparable to those for other occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Most industries use computerized financial systems to monitor business finances. Other applications that are being used are electronic funds transfer, automatic teller machines and electronic data interchange. These will all lead to new skill requirements for these professionals.
- Concern about corporate fraud may create opportunities in forensic accounting. Payroll experts are also likely to be in high demand.
- Most of the increase in employment requirements through 2004 in this occupation is expected to occur in the professional services and business services industries.

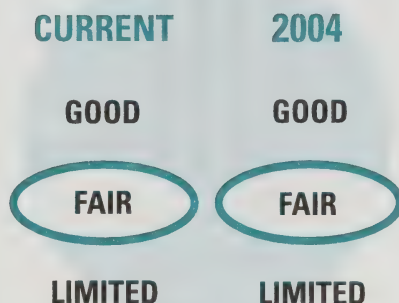
Earnings



Overall Average for All Ages (15+)

37 100	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



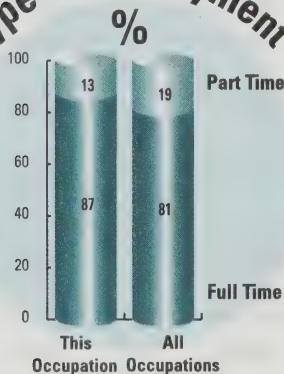
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Human Resources and Business Service Professionals

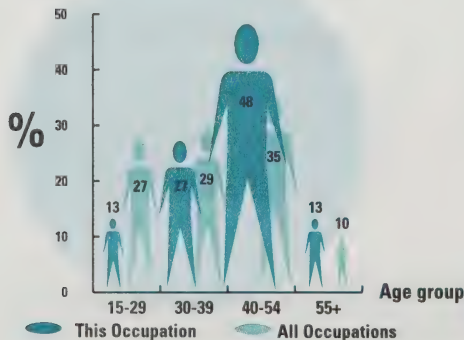
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in government and in organizations throughout the private sector, including management consulting firms and advertising agencies. They may also be self-employed.

- Human resources specialists develop, carry out and evaluate human resources and labour relations policies, programs and procedures, and advise on personnel matters.
- Management consultants research, analyze and provide advice on managerial methods and organization and propose improvements in areas such as operations, human resources and communications.
- Advertising and marketing consultants analyze and provide advice on advertising and marketing strategies. They may also plan, develop and implement advertising campaigns for print or electronic media.

This occupational group also includes human resources specialists such as job and wage analysts, classification and equity officers, labour relations officers and union representatives, and business service professionals such as advertising account executives, business methods analysts, organization analysts, promotion specialists and organization and methods researchers.

Education, Training & Experience

- People in this group usually require a college diploma or university degree in their specialty and some may require graduate degrees. Most recent entrants have an undergraduate university degree.
- With experience, they may progress to management positions.

In These Occupations...

- 91,000 people were employed in 1998, an increase of 104.6% from 1988. This reflects an increase of 21.4% from 1988 to 1993 and 68.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 57% are professionals in business services to management and the remainder are human resource specialists.
- 13% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the last ten years.

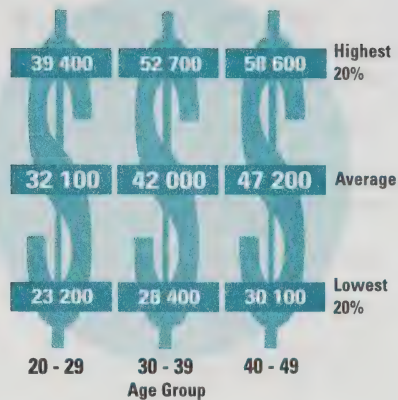
**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

- 41% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 44% are women, compared to an average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 2.8% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other professional occupations but are among the highest for occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are average and earnings are well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Computerized human resource systems and management systems will increase the information technology skill requirements of these professionals.
- Most of the increase in employment requirements through 2004 in these occupations is expected to occur in the business services industry.

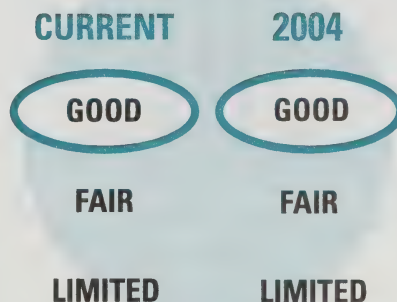
Earnings



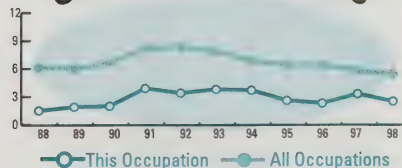
Overall Average for All Ages (15+)

43 500	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



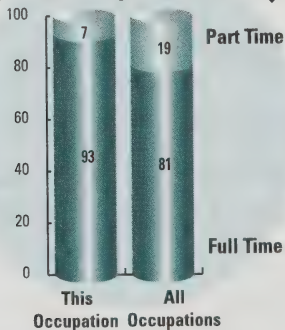
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Specialists in Human Resources

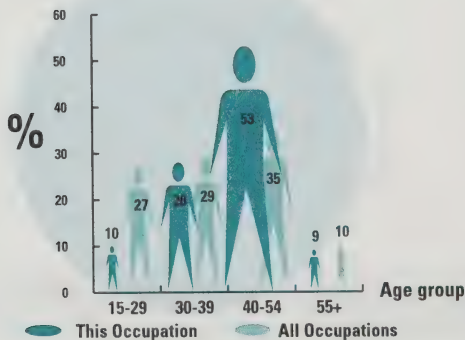
Where They Work



Type of Employment



Distribution by Age



At Work

Specialists in human resources work throughout the private sector and in government. Their duties may require them to:

- develop, implement and evaluate personnel and labour relations policies, programs and procedures;
- administer benefit, employment equity and affirmative action programs;
- negotiate collective agreements and mediate labour disputes and grievances;
- prepare occupational classifications, job descriptions and salary scales;
- advise managers and employees on personnel policies, benefit programs and collective agreements; and
- coordinate employee performance appraisal programs.

Education, Training & Experience

- Specialists in human resources must complete either a university degree or college diploma in a field related to personnel management, such as business administration, industrial relations, commerce or psychology, or a professional development program in personnel administration. Most recent entrants have an undergraduate university degree.
- They may be required to gain some experience in a clerical or administrative position related to personnel administration.
- With experience, they may progress to management positions.

In These Occupations...

- 39,000 people were employed in 1998, an increase of 40.5% from 1988. This reflects an increase of 19.4% from 1988 to 1993 and 17.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 7% work part-time, well below the average of 19% for all occupations.
- 10% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 54% are women, compared to an average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.

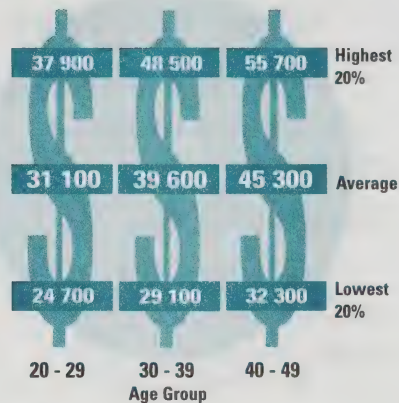
**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

- the unemployment rate averaged 3% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other professional occupations but are among the highest for occupations in the business, finance and administration sectors.

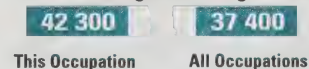
National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Computerized human resource systems to maintain employee information will increase the skill requirements of these professionals.
- Employment requirements are expected to increase in this occupation through 2004 across a broad range of industries, with much of the increase in the business services industry.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

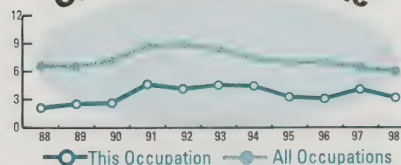
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



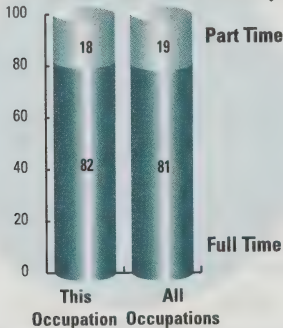
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Professional Business Services to Management

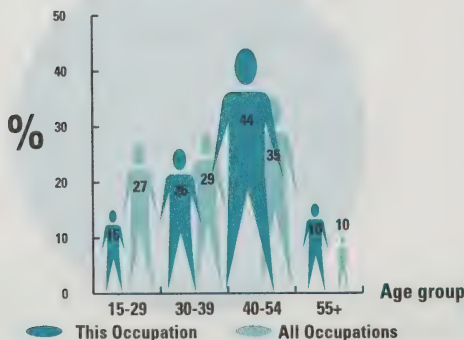
Where They Work



Type of Employment



Distribution by Age



At Work

People in these occupations work in management consulting firms, advertising agencies and throughout the private sector and government. They may also be self-employed.

- Management consultants analyze the effectiveness of the managerial methods and organization of public and private sector organizations. They propose improvements to methods, systems and procedures in areas such as operations, human resources and communications. They may also plan the reorganization of the operation of an organization.
- Advertising and marketing consultants analyze the advertising needs and current marketing strategies of public and private sector establishments. They advise, develop and implement advertising campaigns for print and electronic media.

Education, Training & Experience

- People in these occupations usually require a bachelor's degree or college diploma in business administration or commerce. Many recent entrants have an undergraduate university degree.
- They may need a graduate degree in business administration.
- Management consultants may require certification by a provincial management consulting association.
- With experience, they may progress to senior and managerial positions.

In These Occupations...

- 52,000 people were employed in 1998, an increase of 161.5% from 1988. Most of the growth occurred from 1993 to 1998 when employment increased 112.2%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 18% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in this occupation has increased significantly over the last ten years.
- 65% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.

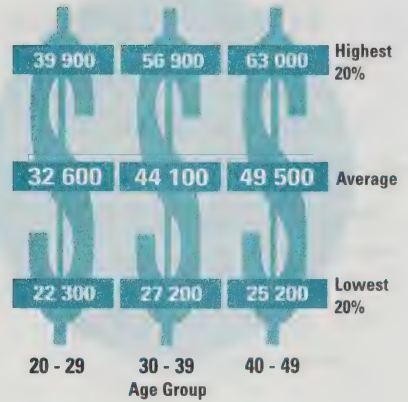
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 36% are women, compared to an average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 2.7% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other professional occupations but are among the highest for occupations in the business, finance and administration sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", as employment opportunities are above average and earnings are well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Computerized management systems and the increasing reliance of business on innovative technology will increase the skill requirements for these management professionals.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the business services industry.

Earnings



Overall Average for All Ages (15+)

44 500	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



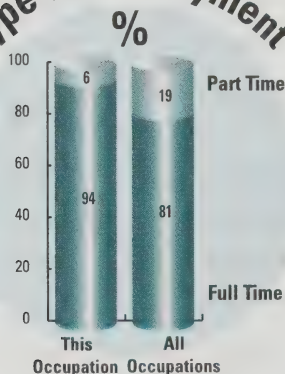
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Clerical Supervisors

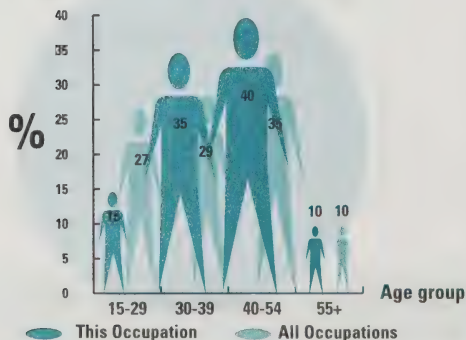
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupational group work in government and in the private sector. They supervise general office and administrative support clerks; finance and insurance clerks; library, correspondence and other information clerks; clerks who work in shipping, receiving and dispatching; and mail and postal clerks, letter carriers, couriers and messengers. Their duties may require them to:

- co-ordinate, assign and review work done;
- establish work schedules and procedures;
- co-ordinate activities with other work units or departments;
- resolve work-related problems;
- prepare and submit progress and other reports;
- train workers in job duties, safety procedures and company policies;
- requisition supplies and materials; and
- ensure smooth operation of computer systems, equipment and machinery.

This occupational group also includes registry supervisors; chief telephone operators; credit, payroll and savings supervisors; billing unit heads; claims adjuster supervisors; customer service supervisors; postal station supervisors; postmasters; head dispatchers and shippers; and traffic control supervisors.

Education, Training & Experience

- These supervisors must have a high school diploma. Many recent entrants have a community college diploma or undergraduate university degree.
- They usually require experience in the occupations they are supervising.
- They may also need completion of a college program or courses related to the occupations they are supervising.

In These Occupations...

- 77,000 persons were employed in 1998, a decrease of 5.1% from 1988. After rising 10.1% over the 1988 to 1993 period, employment decreased 13.8% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 30% supervise general office and administrative support clerks; 29% supervise finance and insurance clerks; and

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

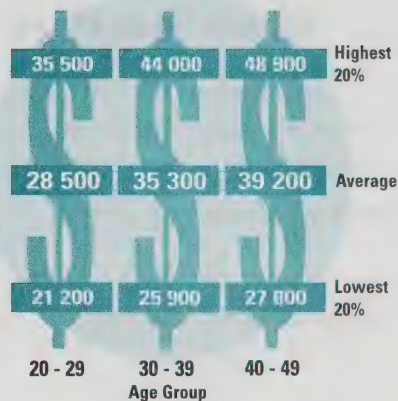
26% supervise recording, distributing and scheduling occupations.

- 6% work part-time, well below the average of 19% for all occupations.
- 7% are self-employed, well below the average of 17% for all occupations.
- 55% are women, compared to an average of 45% for all occupations.
- the unemployment rate averaged 3.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the business, finance and administration sectors.

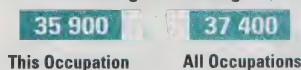
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of long-term employment losses.
- Over the next five years, the outlook is expected to improve to "Fair". The number of job openings for clerical supervisors is expected to increase more rapidly than the number of qualified job seekers, mostly due to a high retirement rate in these occupations.
- Technological change may have a negative effect on this occupational group as office equipment technologies such as personal computers, electronic mail, facsimile machines and related software lead to a decrease in the number of clerical employees. However, these changes will increase the skill levels required for clerical supervisors.
- The small increase in employment requirements through 2004 in these occupations is expected to occur in the finance, insurance and real estate, business services and wholesale trade industries.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

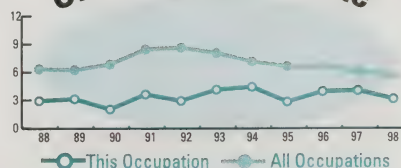
FAIR

FAIR

LIMITED

LIMITED

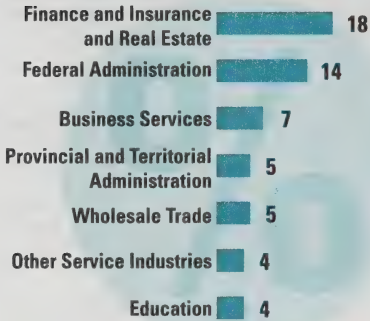
Unemployment Rate



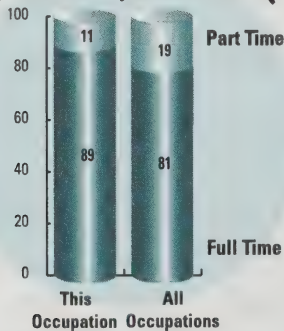
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Administrative and Regulatory Occupations

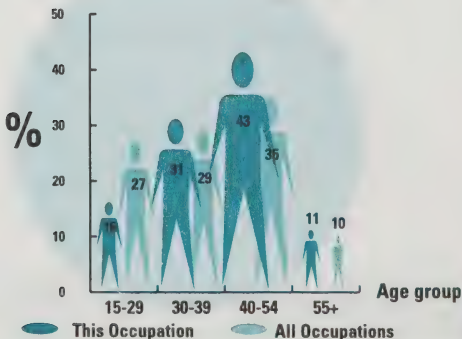
Where They Work



Type of Employment



Distribution by Age



At Work

People in these occupations work throughout the private and public sectors.

- Administrative officers plan, coordinate and implement work priorities, schedules and procedures.
- Executive assistants carry out administrative procedures, public relations and other activities for boards, legislators, senior government officials and executives.
- Personnel and recruitment officers advertise job vacancies, recruit candidates and help select and reassign employees.
- Property administrators carry out management and rental activities for investment properties on behalf of owners.
- Purchasing agents and officers buy equipment, materials and business services for organizations.
- Conference and event planners plan, organize and coordinate conferences, meetings, festivals and similar events.
- Immigration, unemployment insurance and revenue officers administer and enforce related laws and regulations.

This occupational group also includes justices of the peace and court officers.

Education, Training & Experience

- People in this group have a high school diploma. Most recent entrants have a community college diploma or an undergraduate university degree.
- Personnel and recruitment officers may substitute a personnel administration development program offered by a professional association for college or university programs.
- Conference and event planners may substitute experience in hospitality and tourism or public relations for college and university programs.
- Property administrators may need training or vocational courses in addition to a high school diploma.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

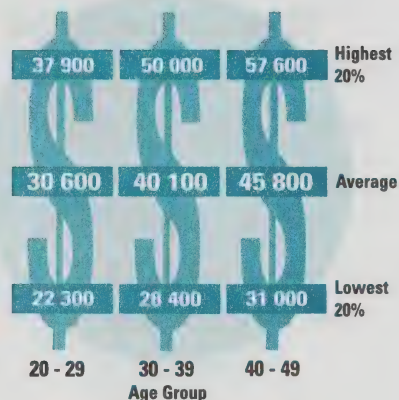
In These Occupations...

- 287,000 people were employed in 1998, an increase of 40.0% from 1988. After employment gains of 25.4% from 1988 to 1993, employment growth slowed to 11.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 50% are administrative officers and the rest work in a wide variety of occupations.
- 11% work part-time, compared to an average of 19% for all occupations.
- 10% are self-employed, compared to an average of 17% for all occupations.
- 69% are women, well above the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 2.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above the average levels for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Technological change may eliminate or reduce the need for some of the occupations in this group due to the use of specialized computer systems. Administrative occupations which use specialized skills in data or communications are expected to be areas of growth for this occupational group.
- Employment requirements are expected to increase in these occupations through 2004 across a broad range of industries.

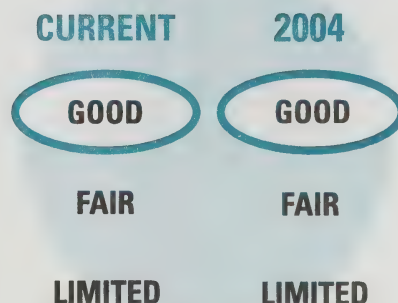
Earnings



Overall Average for All Ages (15+)

42 300	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



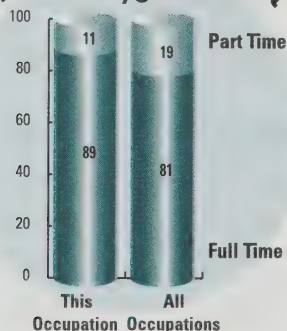
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Administrative Officers

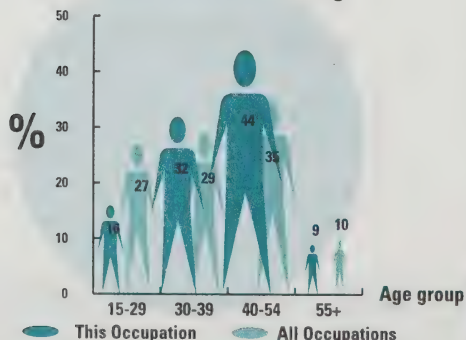
Where They Work



Type of Employment



Distribution by Age



At Work

Administrative officers work throughout the private and public sectors. Their duties may require them to:

- oversee and coordinate office administrative procedures and review, evaluate and implement new procedures;
- establish work priorities, delegate work to staff and ensure deadlines are met;
- coordinate and plan for office services such as accommodation, relocations, equipment, supplies, forms, parking, maintenance and security services;
- assist in preparation of operating budgets and maintain inventory and budgetary controls; and
- prepare reports, manuals and correspondence.

Education, Training & Experience

- Administrative officers must have a high school diploma but usually require a community college diploma or university degree in their area of work. Most recent entrants have a community college diploma or an undergraduate university degree.
- They may require a university degree or college diploma in business or public administration.
- They usually need experience in a senior clerical or executive secretarial position related to office administration.
- With experience, they may progress to management positions in administrative services.

In These Occupations...

- 142,000 people were employed in 1998, an increase of 37.9% from 1988. After employment gains of 26.4% from 1988 to 1993, employment growth slowed to 9.1% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 11% work part-time, compared to an average of 19% for all occupations.
- 6% are self-employed, well below the average of 17% for all occupations.
- 79% are women, well above the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 3.2% from 1996 to 1998, compared to the national average of 6.0%. This rate is

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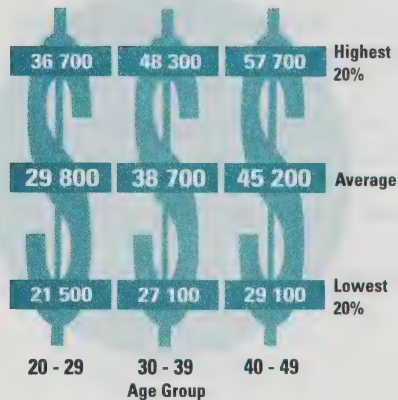
among the lowest for technical, paraprofessional and skilled occupations.

- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities are above average and earnings are well above the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Administrators with specialized skills in data or communications are expected to be more successful in the employment market.
- Employment requirements are expected to increase in this occupation through 2004 across a broad range of industries.

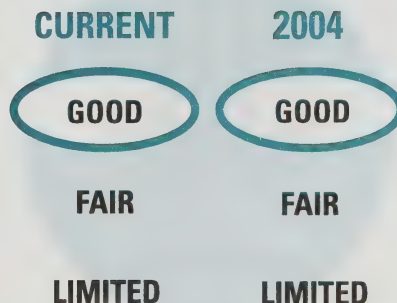
Earnings



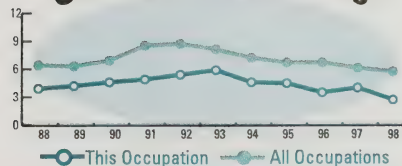
Overall Average for All Ages (15+)

41 800	37 400
This Occupation	All Occupations

Work Prospects



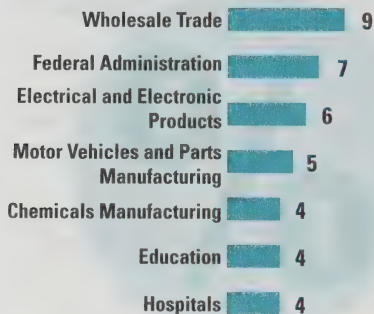
Unemployment Rate



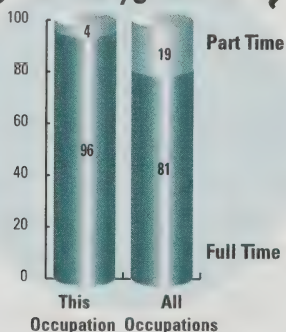
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Purchasing Agents and Officers

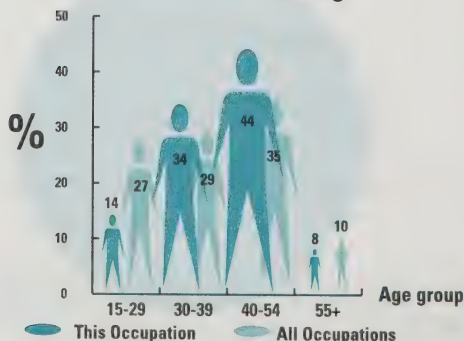
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupation work throughout the private and public sectors. Their duties may require them to:

- purchase general and specialized equipment, materials and business services;
- assess the needs of their workplace and develop specifications for required equipment, materials and supplies;
- invite tenders, consult with suppliers and review quotations;
- determine contract terms and conditions, and award contracts or recommend contract awards;
- establish delivery schedules, monitor progress and contact clients and suppliers to resolve problems;
- specialize in the purchase of particular materials or business services such as furniture or office equipment; and
- hire, train or supervise clerks.

Education, Training & Experience

- People in this occupation usually require a university degree or college diploma in business administration, commerce or economics. Most recent entrants have a community college diploma or an undergraduate university degree.
- They may need experience as purchasing or administrative clerks.
- Those who specialize in the purchase of particular materials or business services may require a related university degree or college diploma. For example, a purchaser of industrial products may need a bachelor's degree or college diploma in engineering.
- With experience, people in this occupation may move to managerial positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

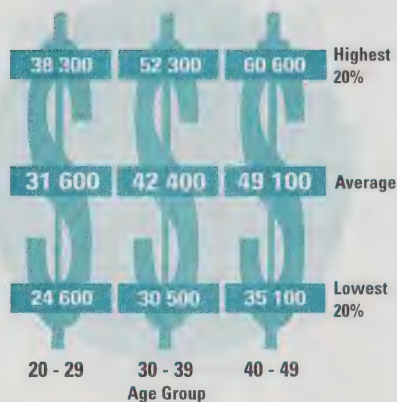
In These Occupations...

- 26,000 people were employed in 1998, an increase of 41.1% from 1988. Most of the growth occurred from 1993 to 1998 when employment increased 27.8%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 4% work part-time, well below the average of 19% for all occupations.
- 2% are self-employed, well below the average of 17% for all occupations.
- 41% are women, compared to an average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 2.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the business, finance and administration sectors.

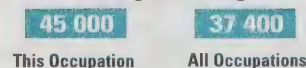
National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Purchasing officers with specialized computer skills in setting up and using computerized inventory control and ordering systems should be more successful in the labour market.
- Employment requirements are expected to increase in this occupation through 2004 across a broad range of industries.

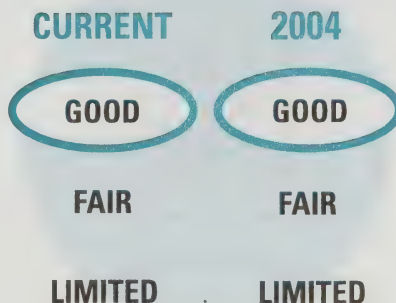
Earnings



Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



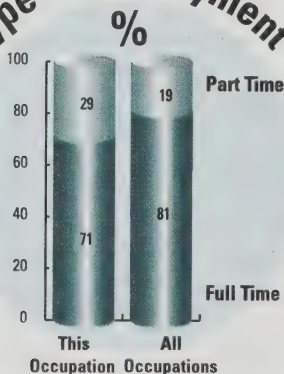
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Finance and Insurance Administrative Occupations

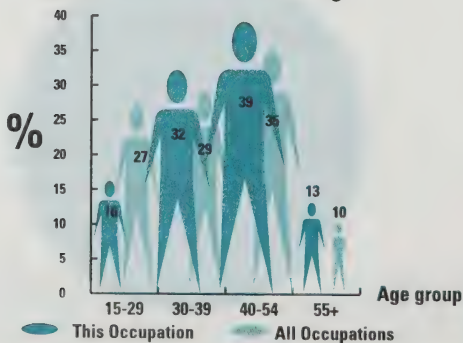
Where They Work



Type of Employment



Distribution by Age



At Work

People in these occupations work in government and in organizations throughout the private sector, including banks, trust companies, credit unions, insurance companies, real estate agencies, and customs, ship and other brokerage firms.

- Bookkeepers maintain records of accounts and other financial transactions using computerized or manual financial record systems.
- Loan officers evaluate and process credit and loan applications.
- Insurance adjusters investigate insurance claims and determine the amount of loss or damages covered by policies.
- Insurance claims examiners review insurance claims and authorize payments.
- Insurance underwriters evaluate insurance applications to determine insurance risks, premiums and coverage.
- Assessors estimate the value of land, structures and other assets for taxation, grants and regional planning purposes.
- Valuers analyze financial records of businesses to assess competitiveness and estimate market value.
- Appraisers provide valuations of property, buildings, machinery and other items for various clients.
- Customs brokers clear goods through customs on behalf of clients.
- Ship brokers buy and sell yachts, ships, other vessels and ships' cargo space on behalf of clients.

Education, Training & Experience

- People in this group must have a high school diploma. Many recent entrants have a community college diploma or an undergraduate university degree.
- Most require a college diploma, a university degree or other courses related to their field, or a combination of extensive experience and training in their field.
- Assessors, valuers, some appraisers and insurance underwriters need accreditation or professional recognition from their professional associations.
- Customs brokerage business operators require licences from Customs and Excise.

In These Occupations...

- 174,000 people were employed in 1998, an increase of 7.3% from 1988. This reflects an increase of 3.9% from 1988 to 1993 and

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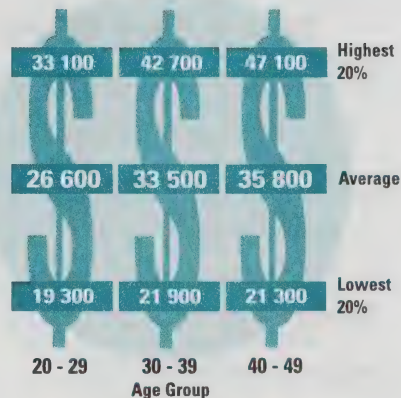
3.2% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

- 59% are bookkeepers; 14% are loan officers; and 11% are insurance adjusters and claims examiners.
- 29% work part-time, well above the average of 19% for all occupations.
- 18% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last 10 years.
- 80% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 2.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are well above average, although earnings are at the average level.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Increasing use of computerized property management, property evaluation and accounting systems will encourage workers in these occupations to upgrade their computer skills. These changes will have a more unfavourable impact on residential appraisers than on commercial appraisers. With the re-engineering of the workplace, administrators with specialized skills in data or communications should be more successful in the labour market.
- Growing interest in retirement savings plans is creating job opportunities for financial planners.
- Continued restructuring of the financial sector will lead to uncertainty as to the prospects for these occupations.
- Employment requirements are expected to increase in these occupations through 2004 across a broad range of industries with much of the increase in the finance, insurance and real estate industry.

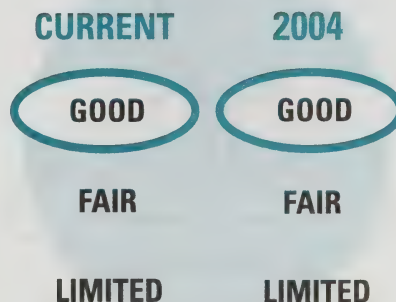
Earnings



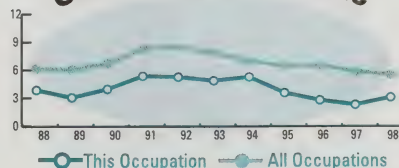
Overall Average for All Ages (15+)

33 500	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



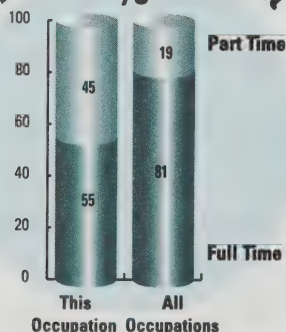
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Bookkeepers

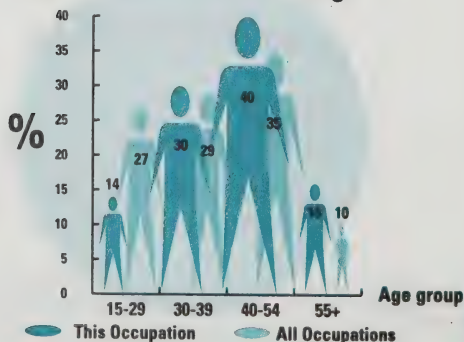
Where They Work



Type of Employment



Distribution by Age



At Work

Bookkeepers work throughout the private and public sectors. They may also be self-employed. Their duties may require them to:

- keep financial records and establish, maintain and balance various accounts using manual and computerized bookkeeping systems;
- post journal entries and reconcile accounts, prepare trial balances of books, maintain general ledgers and prepare financial statements;
- prepare cheques for payrolls and for utility, tax and other bills;
- complete and submit tax remittance forms, workers' compensation forms, pension contribution forms and other government documents;
- prepare tax returns and perform other personal bookkeeping services; and
- prepare statistical, financial and accounting reports.

Education, Training & Experience

- Bookkeepers must have a high school diploma. Many recent entrants have a community college diploma.
- They must complete a college program in accounting, bookkeeping or a related field, or two years of a recognized professional accounting program (such as Chartered Accounting or Certified General Accounting), or a combination of courses in accounting or bookkeeping plus several years' experience as a financial or accounting clerk.
- With additional training, they may progress to professional accounting occupations.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

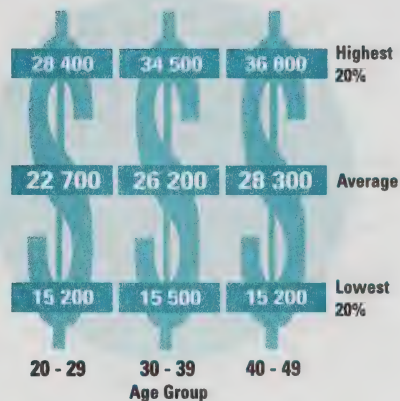
In These Occupations...

- 103,000 people were employed in 1998, an increase of 0.9% from 1988. However, after rising 2.3% over the 1988 to 1993 period, employment decreased 1.3% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 45% work part-time, well above the average of 19% for all occupations. The proportion of part-time workers in this occupation has increased significantly over the last ten years.
- 27% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 95% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 3.6% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for technical, paraprofessional and skilled occupations and for occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are above average and earnings are below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The use of computerized accounting systems is increasing, even in small businesses. Bookkeepers with specialized computer skills are likely to be more successful in the labour market.
- Employment requirements are expected to increase in this occupation through 2004 across a broad range of industries.

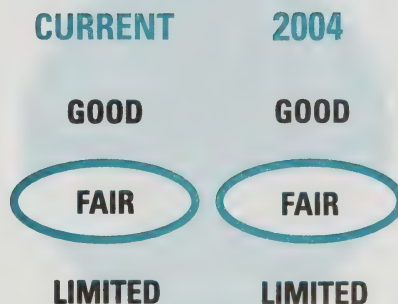
Earnings



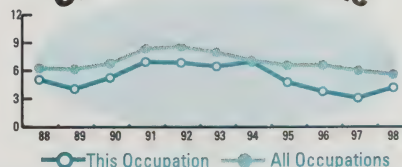
Overall Average for All Ages (15+)

26 500	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Insurance Adjusters and Claims Examiners

Where They Work



At Work

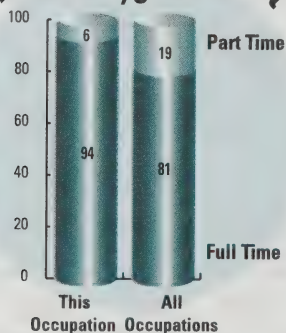
Insurance adjusters work in the claims departments of insurance companies or as independent adjusters. Insurance claims examiners are employed at head offices or branches of insurance companies.

- Insurance adjusters investigate insurance claims and determine the amount of loss or damages covered by insurance policies for automobiles, homes and other properties. They may examine records and reports and consult with claimants, accident witnesses, doctors and other relevant individuals.
- Insurance claims examiners review, examine, calculate and authorize payments for automobile, fire, life, disability, dental and other claims investigated by insurance adjusters. They may ensure claims are valid and settlements made according to company practices and procedures.

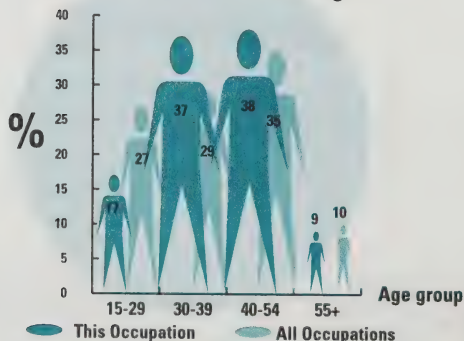
Education, Training & Experience

- People in this occupation must have a high school diploma. Most recent entrants have a community college diploma or an undergraduate university degree.
- They must complete a bachelor's degree, college diploma or some education after high school or have several years' experience as a clerk in a claims department or other general insurance experience.
- They must complete several years' on-the-job training and take insurance industry courses and training programs.
- Independent adjusters require a provincial licence issued by the superintendent of insurance in the province or territory of employment.
- People in this group may gain professional recognition as an associate of the Insurance Institute of Canada by completing educational programs from the Institute or its provincial counterparts.

Type of Employment



Distribution by Age



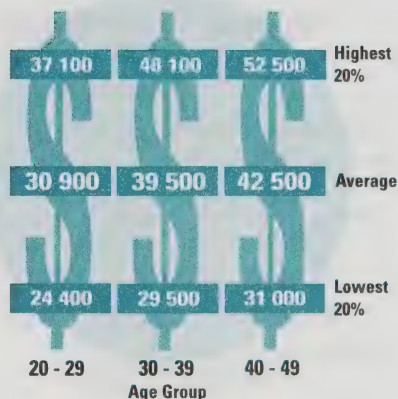
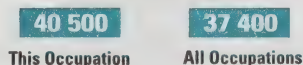
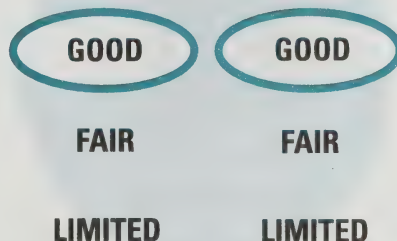
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

In These Occupations...

- 19,000 people were employed in 1998, an increase of 12.9% from 1988. After declining 13.7% over the 1988 to 1993 period, employment increased 30.7% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 6% work part-time, well below the average of 19% for all occupations.
- 5% are self-employed, well below the average of 17% for all occupations.
- 55% are women, compared to an average of 45% for all occupations.
- the unemployment rate averaged 1.5% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the business, finance and administration sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations but are comparable to those for other occupations in the business, finance and administration sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities are well above average and earnings are above the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Increasingly, insurance adjusters and claims examiners will work with computerized accounting and insurance processing systems. Insurance adjusters with specialized computer skills should be more successful in the labour market.
- Virtually all of the increase in employment requirements through 2004 for this occupation is expected to occur in the finance, insurance and real estate industry.

Earnings**Overall Average for All Ages (15+)****Work Prospects****CURRENT****2004****Unemployment Rate**

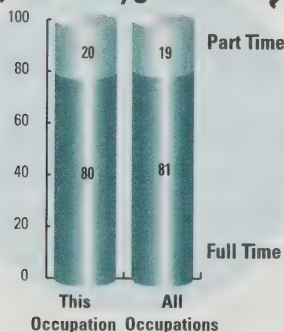
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Secretaries, Recorders and Transcriptionists

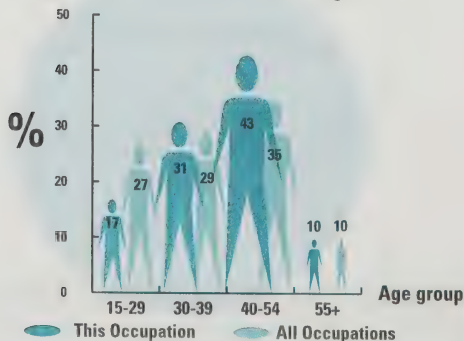
Where They Work



Type of Employment %



Distribution by Age



At Work

Secretaries work in government and in organizations throughout the private sector, including law offices, company legal departments, real estate companies, land titles offices, courts, doctors' offices, hospitals, clinics and other medical organizations.

- Secretaries perform administrative duties and clerical activities. This includes using office software on computers and operating other office equipment.
- Court recorders record verbatim proceedings of courts using stenomasks, stenograph machines and computerized recording equipment. They locate quotes to ensure accuracy and transcribe recorded proceedings according to established formats.
- Medical transcriptionists record and transcribe surgical proceedings, medical reports and records from machine dictation or rough notes from medical reports, correspondence and patient information.

This occupational group also includes executive, private and technical secretaries; estate, medical, legal, litigation and real estate secretaries; court reporters and stenographers; and Hansard reporters.

Education, Training & Experience

- Secretaries must have a high school diploma. Many recent entrants have a community college diploma.
- Secretaries (except legal and medical) complete a one- to two-year college or other program or have previous experience.
- Court recorders and medical transcriptionists must complete high school and a college or other program in court reporting or medical transcription.
- Legal secretaries usually must complete a one- to two-year college or other program for secretaries or legal secretaries.
- Medical secretaries usually must complete a one- to two-year college program or other specialized course for secretaries or medical secretaries.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

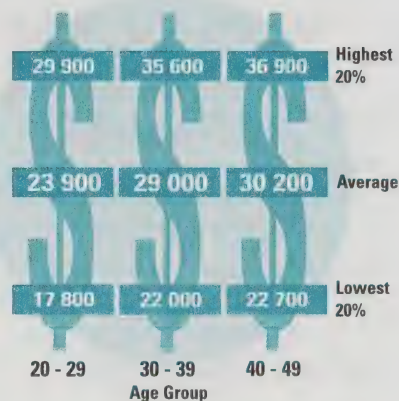
In These Occupations...

- 363,000 people were employed in 1998, a decrease of 24.2% from 1988. Most of the decline occurred from 1993 to 1998, when employment decreased 19.3%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 78% are non-specialized secretaries; 11% are medical secretaries; and 9% are legal secretaries.
- 20% work part-time, compared to an average of 19% for all occupations.
- 4% are self-employed, well below the average of 17% for all occupations.
- 99% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 5.1% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for technical, paraprofessional and skilled occupations and for occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as employment losses are expected to continue.
- Technological change, in particular the continuing growth of computerized office equipment technologies, may lead to continued decreases in the number of secretaries but will expand the role, and increase the career opportunities, of those who remain.
- Experienced secretaries with specialized skills in office software applications are expected to be more successful in the labour market.

Earnings



Overall Average for All Ages (15+)

29 100	37 400
This Occupation	All Occupations

Work Prospects

CURRENT **2004**

GOOD

GOOD

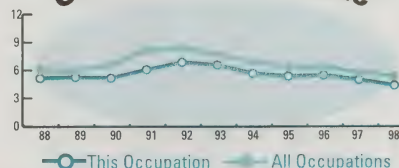
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



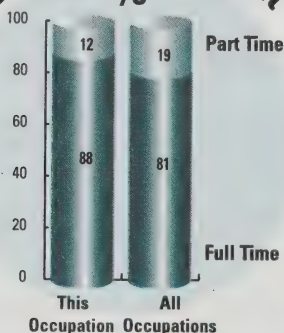
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Legal Secretaries

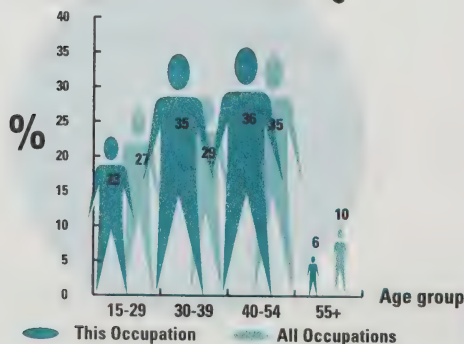
Where They Work



Type of Employment



Distribution by Age



At Work

Legal secretaries work in government, law offices, legal departments of large firms, real estate companies, land title offices and courts at the municipal, provincial and federal levels. Their duties may require them to:

- type correspondence and legal documents such as deeds, wills and affidavits from handwritten copy, shorthand and machine dictation;
- schedule appointments, meetings and conferences;
- set up and maintain filing systems, using their knowledge of legal records and procedures;
- handle confidential materials and documents;
- open and distribute mail and other documents, coordinate the flow of information in-house and with other organizations;
- review and proofread outgoing documents to ensure that they comply with legal procedures and grammar;
- attend court, meetings and conferences to take notes, minutes and dictation; and
- perform other general office work including supervising office workers.

Education, Training & Experience

- Legal secretaries usually must have a high school diploma. Most recent entrants have a community college diploma.
- They usually must complete a one- to two-year college or other program for secretaries or legal secretaries.

In These Occupations...

- 33,000 people were employed in 1998, a decrease of 19.7% from 1988. Most of the decline occurred from 1993 to 1998, when employment decreased 15.1%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 13% work part-time, compared to an average of 19% for all occupations.
- 3% are self-employed, well below the average of 17% for all occupations.
- 99% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 3.7% from 1996 to 1998, compared to the national average of 6.0%.

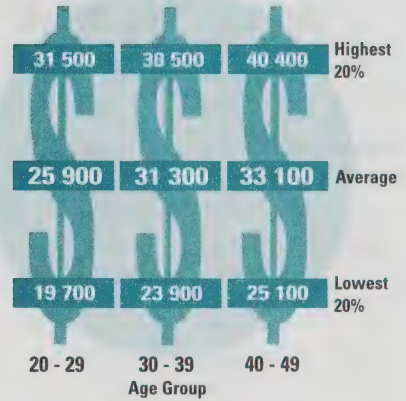
**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

- the average earnings are among the lowest for technical, paraprofessional and skilled occupations and for occupations in the business, finance and administration sectors.

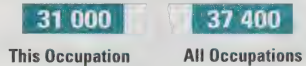
National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as employment losses are expected to continue.
- Increasing use of the Internet and of computerized legal databases, billing systems and other information technologies means that legal secretaries with computer skills will be more successful in the labour market.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT **2004**

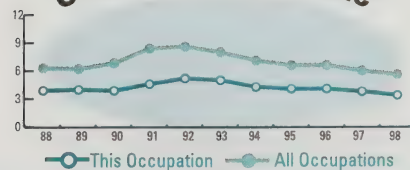
GOOD **GOOD**

FAIR **FAIR**

LIMITED

LIMITED

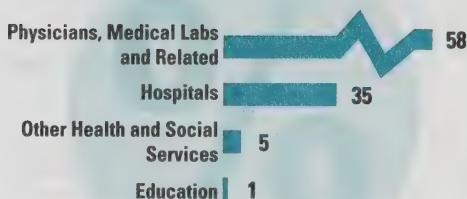
Unemployment Rate



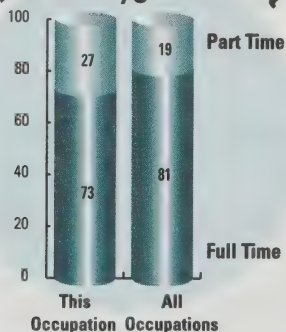
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Medical Secretaries

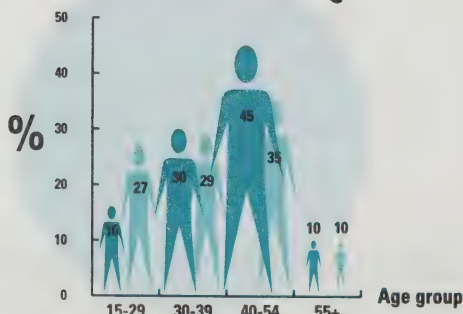
Where They Work



Type of Employment %



Distribution by Age



At Work

Medical secretaries work in doctors' offices, hospitals, medical clinics and other medical settings. Their duties may require them to:

- schedule and confirm medical appointments and receive and communicate messages for doctors and patients;
- type medical records, reports, articles, case histories and correspondence from handwritten notes, shorthand and machine dictation;
- interview patients to complete forms, documents and case histories;
- complete insurance and other claim forms;
- initiate and maintain confidential medical files and records;
- prepare financial statements and handle billing procedures;
- order supplies and maintain inventory; and
- perform other general office work.

Education, Training & Experience

- Medical secretaries must have a high school diploma. Many recent entrants have a community college diploma.
- They usually must complete a one- to two-year college program or other specialized courses for secretaries or medical secretaries.

In These Occupations...

- 40,000 people were employed in 1998, a decrease of 7.5% from 1988. After rising 10.9% over the 1988 to 1993 period, employment decreased 16.5% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 27% work part-time, compared to an average of 19% for all occupations.
- 2% are self-employed, well below the average of 17% for all occupations.
- 99% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 2.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the business, finance and administration sectors.

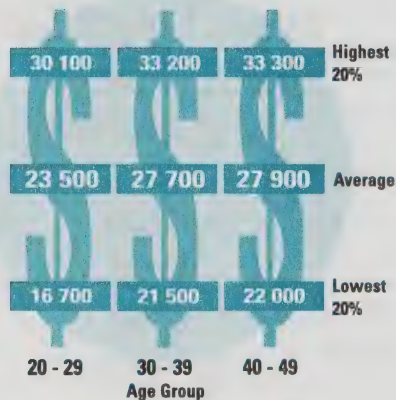
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- the average earnings are among the lowest for technical, paraprofessional and skilled occupations and for occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Limited" as a result of long-term employment losses.
- Over the next five years, this outlook is not expected to change, as employment losses are expected to continue.
- The increasing use of computerized medical records systems and billing systems and of other office equipment technology in medical offices and clinics means that medical secretaries with strong computer skills will have the best employment opportunities.

Earnings



Overall Average for All Ages (15+)

27 400

This Occupation

37 400

All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

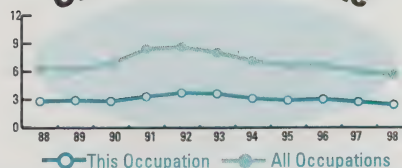
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



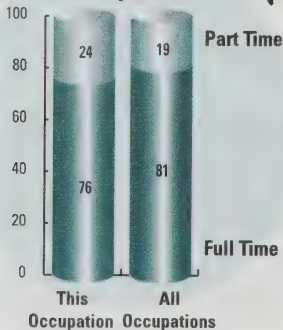
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Clerical Occupations, General Office Skills

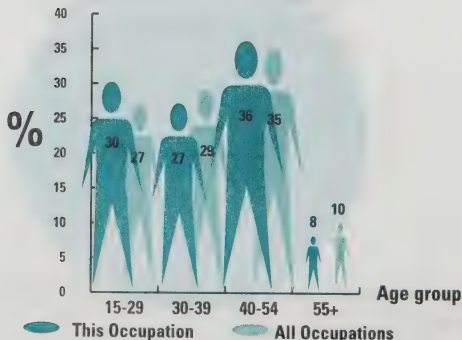
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for government and in the private sector.

- General office clerks type and file documents, attend to phone and counter enquiries, open and sort mail and perform other routine office duties.
- Word processors use word processing programs on computers to format and type documents. They also proofread documents and perform other duties such as photocopying and filing.
- Records clerks process, code, classify, store and retrieve documents using computerized and manual information retrieval systems.
- Health records technicians classify, code, cross-reference and store health records and related data in hospitals, clinics and other health care institutions.
- Receptionists greet people, schedule appointments, provide information and perform related clerical duties.

This occupational group also includes administrative and office assistants, hospital admitting clerks, switchboard operators, answering service operators and microfilm records searchers.

Education, Training & Experience

- People in these occupations usually complete a high school diploma, and may complete additional training related to their area of work. Many recent entrants have a community college diploma or an undergraduate university degree.
- General office clerks and receptionists may be required to type or operate word processing programs on computers.
- Word processors must be able to operate word processing software on computers.
- Health records technicians must complete a two- to three-year college or other program in health records management and be certified by the Canadian Health Record Association. This certification allows them to work in all provinces and territories.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

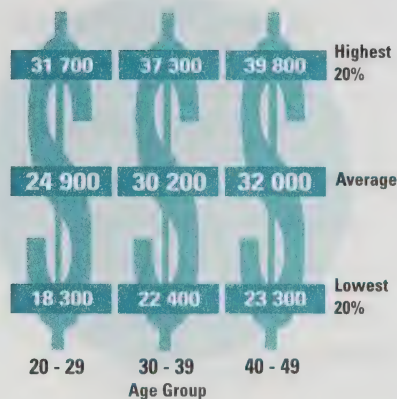
In These Occupations...

- 396,000 people were employed in 1998, a decrease of 3.8% from 1988. After rising 0.4% over the 1988 to 1993 period, employment decreased 4.1% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 55% are general office clerks and 33% are receptionists and switchboard operators.
- 24% work part-time, compared to an average of 19% for all occupations.
- 2% are self-employed, well below the average of 17% for all occupations.
- 86% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 6.2% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the business, finance and administration sectors.
- the average earnings are among the lowest for occupations with similar education/training requirements and for occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities are below the average level for comparable occupations and earnings are well below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Technological change will affect this occupational group through the use of office equipment technology such as personal computers, electronic mail, automated switchboards and voice mail systems. Managers and other employees increasingly are using these technologies to perform work that clerks used to do for them, reducing the need for clerks. Clerks with specialized computer skills are expected to be more successful in the labour market.
- There may be opportunities through telecommunications in these occupations. There is expected to be a small increase in employment requirements in these occupations through 2004 across a broad range of industries.

Earnings



Overall Average for All Ages (15+)

29 900	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

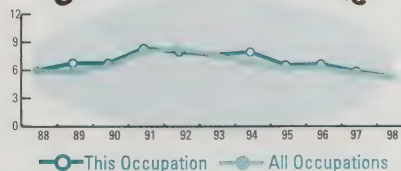
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



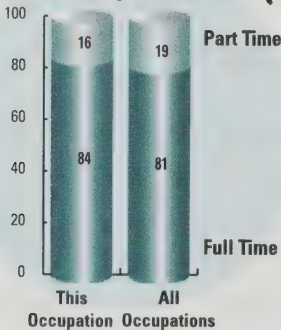
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Office Equipment Operators

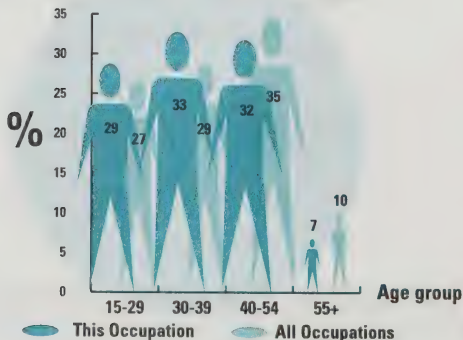
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in government and the private sector in organizations such as telephone and commercial printing companies, magazine publishers and typesetting firms.

- Computer operators use computer equipment to produce reports, monitor the operation of computer systems and networks, and schedule their use.
- Data entry clerks type at keyboards and data entry consoles to input data on diskettes, disks and tapes, and maintain libraries of these items.
- Typesetters operate keyboards to enter copy into typesetting systems or use typesetting output equipment to produce text ready to print.
- Desktop publishing operators use desktop publishing software and equipment to design, lay out and produce camera-ready copy.
- Mark-up persons mark copy with computer codes and instructions before typesetting.
- Telephone operators use computerized and conventional telephone systems to advance and assist customers' phone calls.
- Telephone service observers develop and give telephone operator training courses and monitor the work of telephone operators.

Education, Training & Experience

- People in this group must complete some high school or have a high school diploma. Many recent entrants have a community college diploma.
- Typesetters and desktop publishing operators must have a high school diploma and usually require a college program in graphic arts or other training in typography, computer typesetting or desktop publishing.
- Typesetters require typing or data entry experience.
- Mark-up persons usually have a high school diploma.
- Telephone operators receive on-the-job training.
- Telephone service observers must usually have experience as telephone operators.
- With experience, people in this group may progress to supervisory positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

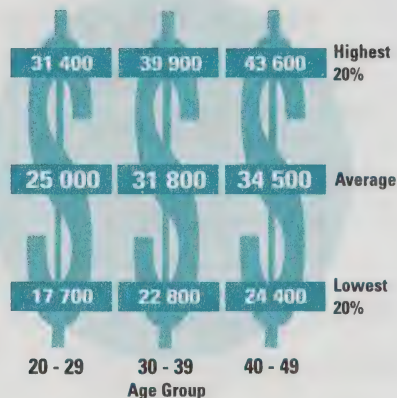
In These Occupations...

- 90,000 people were employed in 1998, a decrease of 31.2% from 1988. Most of the decline occurred from 1993 to 1998 when employment decreased 22.7%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 63% are data entry clerks and 22% are computer operators.
- 16% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the last ten years.
- 4% are self-employed, well below the average of 17% for all occupations.
- 74% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 7.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the business, finance and administration sectors.
- the average earnings are comparable to those for other occupations with similar education/training requirements and for other occupations in the business, finance and administration sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as employment losses are expected to continue.
- Restructuring of office work, made possible by new computer technologies, has had an unfavourable impact on employment in this group. Those who continue to be employed in these areas will probably require higher levels of computer skills than in the past.

Earnings



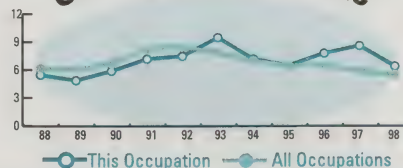
Overall Average for All Ages (15+)

31 800	37 400
This Occupation	All Occupations

Work Prospects

CURRENT	2004
GOOD	GOOD
FAIR	FAIR
LIMITED	LIMITED

Unemployment Rate



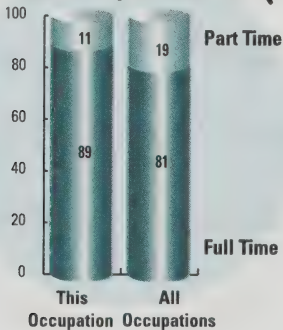
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Computer Operators

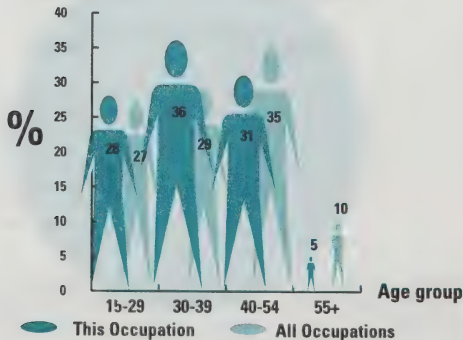
Where They Work



Type of Employment %



Distribution by Age



At Work

Computer operators work in computer centres throughout the public and private sectors. Their duties may require them to:

- operate computer equipment such as terminals, tape drives, disk drives and printers;
- operate master consoles to monitor the operation of computer systems and networks;
- load computer tapes and disks and install software and printer paper and forms;
- operate spreadsheet programs and other types of software to load and manipulate data and produce reports;
- coordinate and schedule the use of computer terminals and networks;
- report computer malfunctions to computer maintenance technicians; and
- distribute computer output to users.

This occupation also includes computer tape librarians, master console operators, network controllers and operators, peripheral operators and system operators.

Education, Training & Experience

- Computer operators usually must have a high school diploma. Many recent entrants have a community college diploma.
- They usually complete college or other courses in computer operations or network administration.
- With additional training and experience, they may progress to supervisory positions.

In These Occupations...

- 20,000 people were employed in 1998, a decrease of 31.5% from 1988. Most of the decline occurred from 1993 to 1998 when employment decreased 21.8%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 11% work part-time, compared to an average of 19% for all occupations.
- 4% are self-employed, well below the average of 17% for all occupations.
- 47% are women, compared to an average of 45% for all occupations.

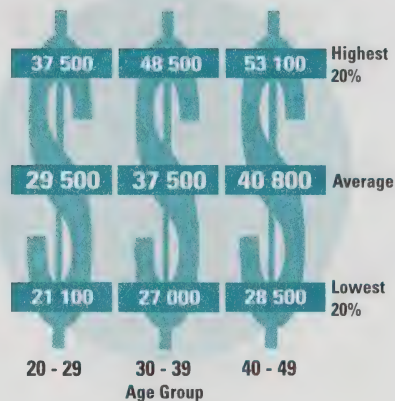
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- the unemployment rate averaged 6.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the business, finance and administration sectors.
- the average earnings are among the highest for occupations with similar education/training requirements but are comparable to those for other occupations in the business, finance and administration sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as employment losses are expected to continue.
- Increasing use of microcomputers and networks, rather than mainframe computers, is likely to continue to have an unfavourable impact on demand for computer operators.

Earnings



Overall Average for All Ages (15+)

37 500	37 400
This Occupation	All Occupations

Work Prospects

CURRENT 2004

GOOD

GOOD

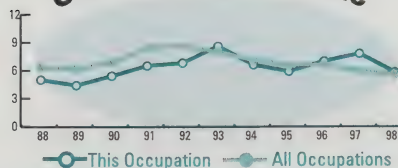
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



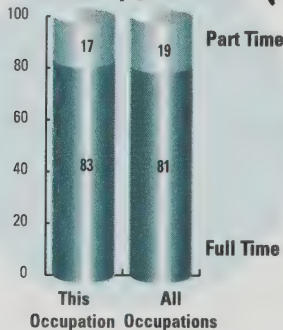
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Data Entry Clerks

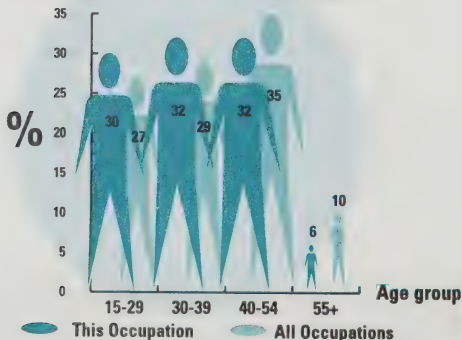
Where They Work



Type of Employment



Distribution by Age



At Work

Data entry clerks work in offices and computer centres throughout the public and private sectors. Their duties may require them to:

- receive and register invoices, forms, records and other documents for data capture;
- type at keyboards and data entry consoles to input source data onto disks, diskettes and tapes for storage;
- identify, label and store disks, diskettes and tapes;
- verify accuracy and completeness of data; and
- maintain libraries of disks and tapes.

This occupation also includes data control clerks, data processors and payment entry clerks.

Education, Training & Experience

- Data entry clerks usually require a high school diploma. Many recent entrants have a community college diploma or an undergraduate university degree.
- They may need college or other courses in data entry.
- They usually must be able to type or operate data entry equipment.
- With experience, they may progress to supervisory positions.

In These Occupations...

- 56,000 people were employed in 1998, a decrease of 36.6% from 1988. Most of the decline occurred from 1993 to 1998 when employment decreased 27.7%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 17% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in this occupation has increased significantly over the last ten years.
- 3% are self-employed, well below the average of 17% for all occupations.
- 83% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 7.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the business, finance and administration sectors.

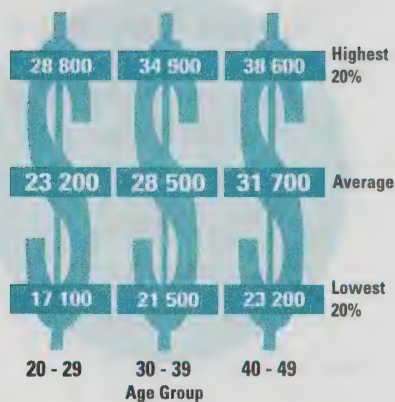
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- the average earnings are among the lowest for occupations with similar education/training requirements and for technical, paraprofessional and skilled occupations.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as employment losses are expected to continue.
- Use of optical scanner systems for data entry and direct entry of data by interviewers, sales clerks and others is likely to decrease demand for data entry clerks. Data entry operators with knowledge of a variety of software programs are expected to be more successful in the labour market.

Earnings



Overall Average for All Ages (15+)

29 000	37 400
This Occupation	All Occupations

Work Prospects

CURRENT 2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



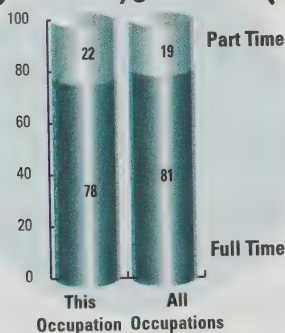
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Finance and Insurance Clerks

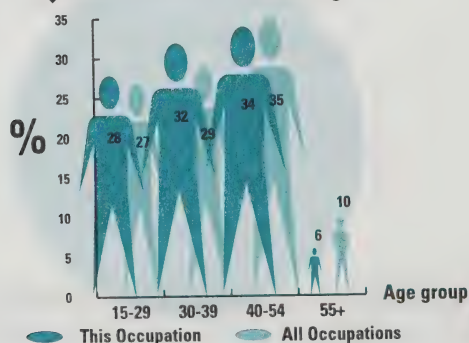
Where They Work



Type of Employment



Distribution by Age



At Work

These clerks work in government and throughout the private sector in payroll administration companies, banks, trust companies, credit unions and collection agencies.

- Accounting clerks calculate, prepare and process bills, invoices and other routine financial records.
- Payroll clerks collect, verify and process payroll data, including the calculation of deductions such as taxes, union dues, insurance and pension plans for employees. They also provide information on payroll matters to employees.
- Customer service representatives and tellers process customers' financial transactions and provide information on banking services.
- Bank clerks maintain documented customer instructions and agreements and files; process non-standard transactions; reconcile and maintain systems; audit transactions; process loans, mortgages and retirement savings plan and other applications; and perform various clerical activities.
- Insurance clerks process claim transactions, policy changes and premium payments; calculate premiums, pension benefits and annuity payments; and perform other clerical activities.
- Other financial clerks perform financial clerical duties in real estate, securities and similar offices.
- Collectors collect payments on overdue accounts and bad cheques, locate debtors and make collection arrangements.

Education, Training & Experience

- These clerks usually must have a high school diploma. Many recent entrants have a community college diploma or an undergraduate university degree.
- Payroll clerks usually have college or other courses in accounting, bookkeeping or payroll administration or experience as financial clerks.
- Bank, insurance and other financial clerks are usually provided with on-the-job training.
- Collectors usually need a collections licence.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

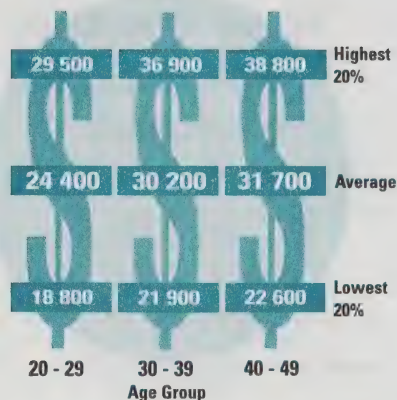
In These Occupations...

- 263,000 people were employed in 1998, an increase of 3.3% from 1988. However, after rising 3.7% over the 1988 to 1993 period, employment decreased 0.4% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 56% are accounting and related clerks and 21% are tellers.
- 22% work part-time, compared to an average of 19% for all occupations.
- 2% are self-employed, well below the average of 17% for all occupations.
- 86% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 3.4% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations with similar education/training requirements.
- the average earnings are among the lowest for occupations with similar education/training requirements and for occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are above average, although earnings are below average.
- Over the next five years, this outlook is not expected to change, since the number of job openings is expected to be matched by the number of qualified job seekers.
- Computerized financial and accounting systems, increased use of automated banking machines and alternate delivery channels for banking will affect the nature of work performed by this group. The automation of financial and payroll systems also poses challenges for this group. Workers with good computer skills are likely to have the best employment prospects.
- Financial service industries face growing customer service expectations, requiring more sophisticated communication with clients from these employees.

Earnings



Overall Average for All Ages (15+)

29 700	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



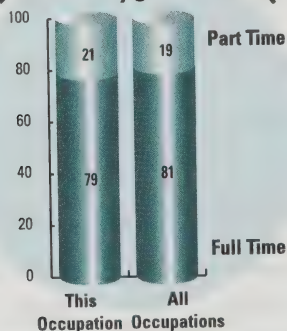
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Accounting and Related Clerks

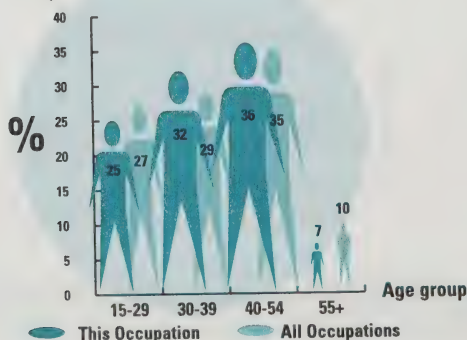
Where They Work



Type of Employment



Distribution by Age



At Work

These clerks are employed throughout the private sector and in government. Their duties may require them to:

- calculate, prepare and issue bills, invoices and other financial statements using manual and computerized systems;
- process, verify and balance financial records and business transactions and enter data in a ledger or computerized system;
- compile budget data and documents based on estimated revenues and expenses and previous budgets;
- calculate costs of materials, overhead and other expenses based on estimates, quotations and price lists; and
- perform other duties such as filing, completing reports and answering clients' questions.

This occupation includes a variety of clerks such as accounts payable and receivable clerks, audit clerks, billing clerks, ledger clerks, tax clerks and tax return preparers.

Education, Training & Experience

- These clerks usually must have a high school diploma. Most recent entrants have a community college diploma or an undergraduate university degree.
- They may be required to complete a college or other course in accounting, bookkeeping or computer operations.
- With additional training and experience, they may advance to supervisory positions or positions requiring more skills, such as bookkeeper.

In These Occupations...

- 148,000 people were employed in 1998, a decrease of 1.3% since 1988. However, after declining 2.1% over the 1988 to 1993 period, employment increased 0.8% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 21% work part-time, compared to an average of 19% for all occupations.
- 3% are self-employed, well below the average of 17% for all occupations.
- 85% are women, well above the average of 45% for all occupations.

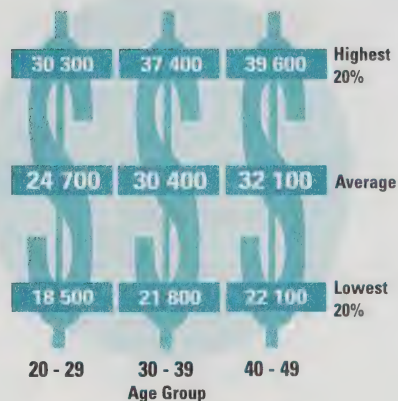
*Check out the 'big picture' in
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- the unemployment rate averaged 3.7% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations with similar education/training requirements.
- the average earnings are comparable to those for other occupations with similar education/training requirements but are among the lowest for occupations in the business, finance and administration sectors.

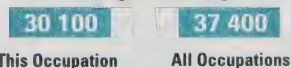
National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are above average, although earnings are below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Use of computerized accounting, inventory and billing systems will increasingly be required of accounting clerks. Good computer skills will be more and more essential.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



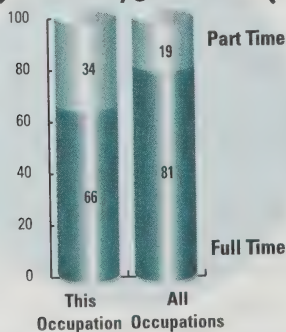
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Tellers, Financial Services

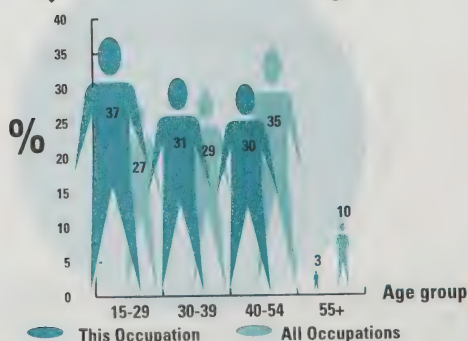
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupation work in banks, trust companies, credit unions and other financial institutions. Their duties may require them to:

- process customers' financial transactions such as deposits, withdrawals, certified cheques, transfers and credit card payments;
- provide customer services such as opening accounts and savings plans, purchasing bonds and initiating basic investments;
- sell travellers' cheques, foreign currency and money orders;
- balance daily transactions using computer programs, calculators and adding machines;
- sort and file deposit slips and cheques;
- recognize opportunities to promote products and services to customers; and
- answer customers' questions and resolve problems concerning accounts.

Education, Training & Experience

- These people must have a high school diploma. Many recent entrants have a community college diploma or an undergraduate university degree.
- Their employers provide on-the-job training.
- With experience, they may advance to supervisory positions.

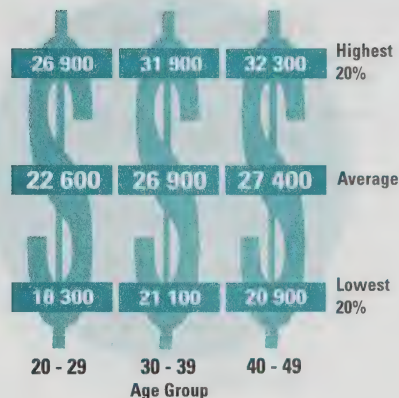
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

In These Occupations...

- 56,000 people were employed in 1998, a decrease of 5.2% from 1988. After rising 5.6% over the 1988 to 1993 period, employment decreased 10.2% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 34% work part-time, well above the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 92% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 3.0% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations with similar education/training requirements.
- the average earnings are among the lowest for occupations with similar education/training requirements and for occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Limited" as a result of long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Major improvements in technology will continue to affect the nature of work performed by this group and reduce the number of people needed to provide traditional and basic transactional services. With the availability of automated banking machines and the emergence of customer-based banking, tellers will increasingly move more to the role of customer service representative, handling a broader range of transactions and tailoring packages of more complex services to meet customer needs.

Earnings**Overall Average for All Ages (15+)**

25 900	37 400
This Occupation	All Occupations

Work Prospects**CURRENT****2004****GOOD****GOOD****FAIR****FAIR****LIMITED****LIMITED****Unemployment Rate**

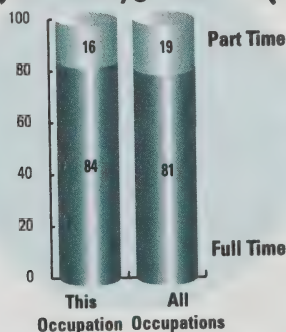
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Administrative Support Clerks

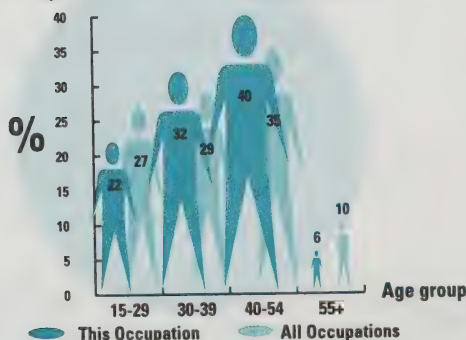
Where They Work



Type of Employment



Distribution by Age



At Work

These clerks work throughout the private sector and in government, including courts.

- Administrative clerks compile, verify, record, authorize and issue licences, permits, applications, contracts and requisitions using manual and computerized processing systems. They prepare reports, maintain inventories and perform related clerical duties.
- Personnel clerks assist personnel officers and human resource specialists. They compile, maintain and process information relating to staffing, recruitment, training, labour relations, performance evaluation, classification and related clerical activities.
- Court clerks prepare court dockets and exhibits and perform other support functions in courtrooms. They also update and maintain court office indexes and files on court actions and decisions.

Education, Training & Experience

- Clerks in this group require different educational levels depending on their occupation. Most recent entrants have a community college diploma or an undergraduate university degree.
- Administrative and personnel clerks usually must complete high school and college or other courses in business or personnel administration. They may need to have some clerical experience and be able to type or operate computers.
- Court clerks must have a high school diploma and are provided with on-the-job training.

In These Occupations...

- 40,000 people were employed in 1998, an increase of 18.1% from 1988. After employment gains of 15.8% from 1988 to 1993, employment growth slowed to 1.9% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 86% are administrative clerks and 10% are personnel clerks.
- 16% work part-time, compared to an average of 19% for all occupations.
- 2% are self-employed, well below the average of 17% for all occupations.

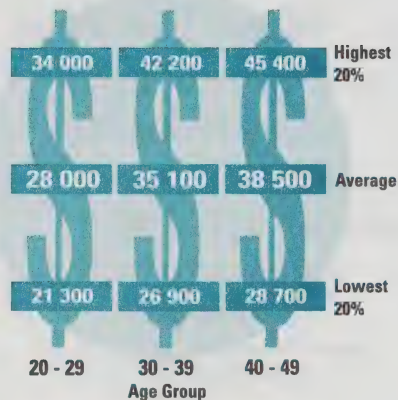
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 87% are women, well above the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 4.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations with similar education/training requirements.
- the average earnings are among the highest for occupations with similar education/training requirements but are comparable to those for other occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", as employment opportunities and earnings are both at average levels.
- Over the next five years, the outlook is expected to improve to "Good". The number of job openings is expected to increase more rapidly than the available number of qualified job seekers, due to strong employment growth and a high retirement rate in these occupations.
- This area of clerical work will be less affected by technological change than other occupations, as people in this area interact more with other people. However, it will still be important to maintain up-to-date computer skills.
- As more organizations adopt team principles, personnel clerks will require more complex communications skills for working with others.
- Employment requirements in these occupations are expected to increase through 2004 across a broad range of industries.

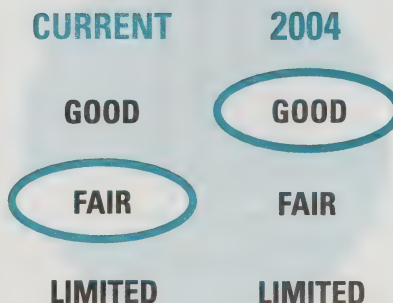
Earnings



Overall Average for All Ages (15+)

35,900	37,400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



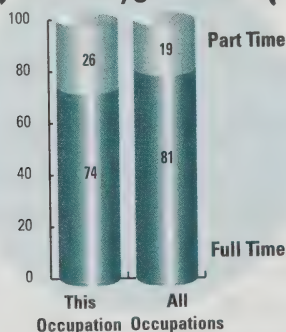
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Library, Correspondence and Related Information Clerks

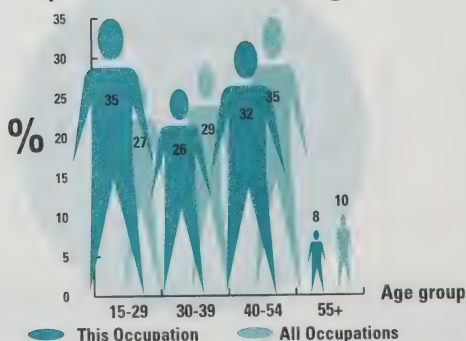
Where They Work



Type of Employment



Distribution by Age



At Work

These clerks work in government and in private sector organizations such as libraries, newspaper and other publishing firms, retail organizations, insurance companies, telephone and utility companies, and market research and polling firms.

- Library clerks issue, receive, sort and shelf library books and assist with other clerical activities.
- Advertising and correspondence clerks, editorial assistants, publication clerks and proofreaders perform specific clerical duties for newspapers, publishing firms and other organizations.
- Customer service clerks respond to customers' questions and complaints, receive payments and perform related clerical activities for retail, insurance and other organizations.
- Information clerks provide information on services, schedules, rates and other matters in response to telephone and in-person questions.
- Survey interviewers contact individuals to collect data for market research, public opinion polls and other purposes.
- Statistical clerks code and compile interview and other data, and conduct routine analyses of data.

Education, Training & Experience

- Clerks in this group require different educational levels depending on their occupation. Many recent entrants have a community college diploma or an undergraduate university degree.
- Library clerks usually must complete high school.
- Advertising and correspondence clerks, editorial assistants, publication clerks and proofreaders must have a high school diploma. They may need to have additional courses in writing, journalism or a related field and previous clerical or administrative experience.
- Customer service and information clerks usually must complete high school and have some clerical or sales experience.
- Survey interviewers and statistical clerks may require a high school diploma and experience in computer operation. On-the-job training is usually provided.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

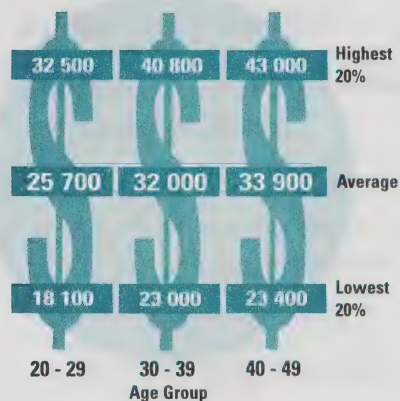
In These Occupations...

- 70,000 people were employed in 1998, an increase of 7.2% from 1988. However, after rising 19.8% over the 1988 to 1993 period, employment decreased 10.5% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 71% work as customer service, information and related clerks and 17% work as interviewers and statistical clerks.
- 26% work part-time, compared to an average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 77% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 7.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the business, finance and administration sectors.
- the average earnings are comparable to those for other occupations with similar education/training requirements but are among the lowest for occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- These clerks will increasingly work with computerized databases including those accessed through Internet and Intranets. Growth in these occupations will be driven by demand for survey and statistical staff and by demand in a broad range of jobs linked to electronic information systems such as electronic publishing, electronic shopping and the Internet. Entrants with good computer skills are most likely to be successful in the labour market.
- Employment requirements in these occupations are expected to increase through 2004 across a broad range of industries, with much of the increase in the retail trade, business services and wholesale trade industries.

Earnings



Overall Average for All Ages (15+)

31 700	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

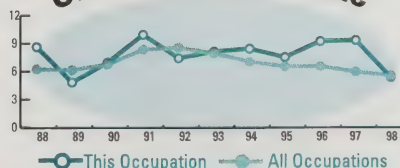
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



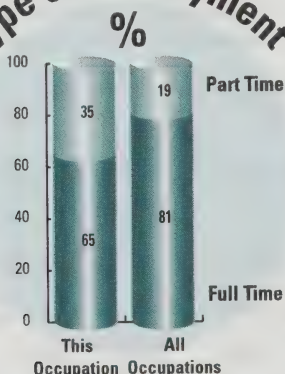
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Mail and Message Distribution Occupations

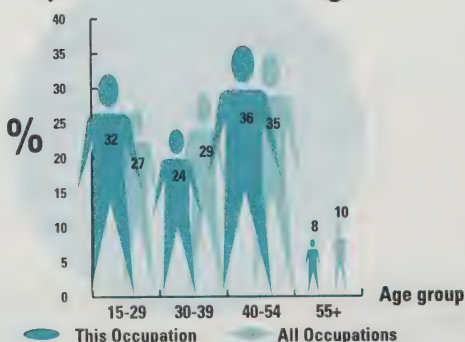
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for Canada Post Corporation and other government departments, courier and parcel express services and other private sector organizations.

- Postal clerks calculate postage for letters, parcels and registered mail and receive payment at sales counters and postal wickets. They also sell stamps, prepaid mail and money orders, route mail and perform other related clerical activities.
- Mail sorters and mail room clerks sort, label, bag and route mail in mail processing plants and internal mail rooms.
- Letter carriers sort and deliver mail, record delivery of registered mail and collect payments of cash-on-delivery parcels for Canada Post Corporation.
- Couriers and messengers pick up and deliver letters, parcels and other items, travelling on foot, by bicycle or by motor vehicle.
- Flyer and newspaper distributors deliver these items to residences and businesses.

Education, Training & Experience

- People in these occupations require some high school education. Many recent entrants have a high school diploma.
- Mail and postal clerks and mail sorters may, with experience and additional training, progress to supervisory positions.
- Letter carriers receive between two weeks and one month of training at Canada Post Corporation. With experience and additional training, they may progress to supervisory positions.
- Couriers, messengers and newspaper distributors need to have a driver's licence and be eligible for bonding.

In These Occupations...

- 120,000 people were employed in 1998, an increase of 9.7% from 1988. After declining 0.8% over the 1988 to 1993 period, employment increased 10.6% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 40% are couriers and messengers; 36% are mail, postal and related clerks; and 25% are letter carriers.

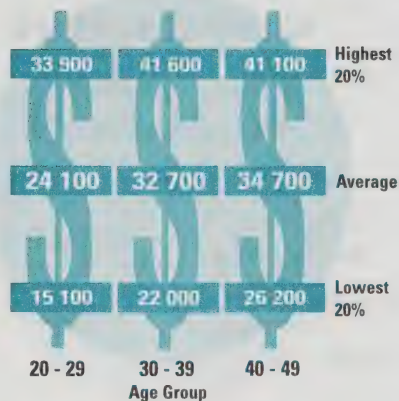
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 35% work part-time, well above the average of 19% for all occupations.
- 20% are self-employed, compared to an average of 17% for all occupations.
- 34% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4.7% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations with similar education/training requirements.
- the average earnings are comparable to those for other occupations with similar education/training requirements but are among the lowest for occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are above the average level for comparable occupations and earnings are below average.
- Over the next five years, the outlook is expected to weaken to "Limited". With a large number of recent graduates or non-completers seeking work in these occupations, the number of qualified job seekers is expected to grow, exceeding the number of job openings, which are expected to decline.
- Cheaper long-distance telephone rates and the increasing use of electronic methods of data transfer, such as fax, e-mail and Web sites, will limit growth in the use of postal and courier services. However, a positive trend is the greater use of electronic, telephone or catalogue shopping which may increase the use of parcel delivery services.

Earnings



Overall Average for All Ages (15+)

30 600	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

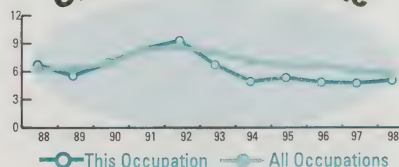
FAIR

FAIR

LIMITED

LIMITED

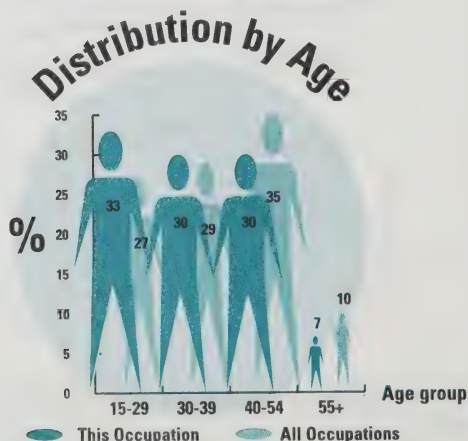
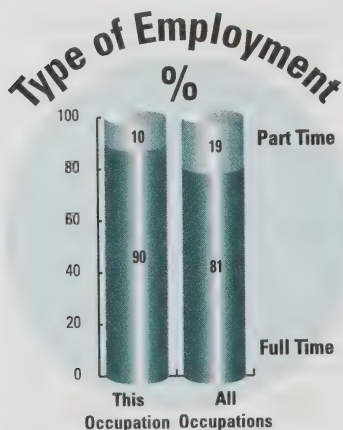
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Recording, Scheduling and Distributing Occupations

Where They Work



At Work

People in this group work in government and throughout the private sector.

- Shippers and receivers ship and receive goods, maintain records and oversee the loading and unloading of goods.
- Storekeepers and parts clerks store and issue parts and supplies for sale and use within their organizations.
- Production clerks prepare work schedules, and coordinate and monitor the movement of materials and the progress of production.
- Purchasing clerks buy materials for organizations.
- Inventory clerks maintain computerized or manual records of materials.
- Dispatchers operate radio and telecommunications equipment to dispatch vehicles, drivers and personnel.
- Radio operators communicate with personnel on ships, aircraft, offshore oil rigs and other remote locations. They also operate Canadian Forces communications equipment.
- Transportation route and crew schedulers prepare route schedules and assign personnel for transit systems and other transportation.

Education, Training & Experience

- People in these occupations usually have a high school diploma and may require some specialized training after high school and some work experience.
- Automotive parts clerks may need a three- or four-year apprenticeship in Manitoba, Alberta, the Northwest Territories, British Columbia and Yukon.
- Inventory clerks may be required to operate computerized inventory systems.
- Police and emergency dispatchers usually need on-the-job training, and those who operate radios usually require a provincial radio operator's certificate.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

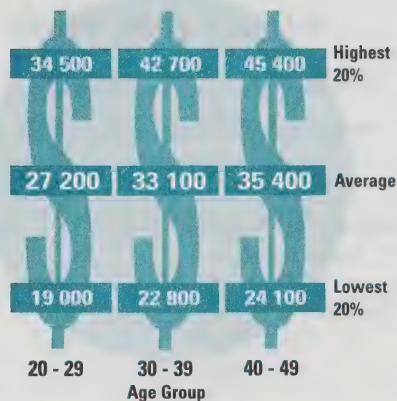
In These Occupations...

- 195,000 people were employed in 1998, an increase of 0.2% from 1988. After declining 8.9% over the 1988 to 1993 period, employment increased 10.0% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 48% are shippers and receivers; 19% are purchasing and inventory clerks; and 16% are storekeepers and parts clerks.
- 10% work part-time, compared to an average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 27% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 6.2% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the business, finance and administration sectors.
- the average earnings are comparable to those for other occupations with similar education/training requirements and for other occupations in the business, finance and administration sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Computerized inventory control, ordering and scheduling systems—in particular just-in-time systems—will increase the requirements for computer skills in these occupations, but may have a negative impact on employment requirements. Entrants with good computer skills will have the best labour market opportunities.
- Employment requirements in these occupations are expected to increase through 2004 across a broad range of industries, with much of the increase occurring in the wholesale trade and retail trade industry.

Earnings



Overall Average for All Ages (15+)

32 300	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

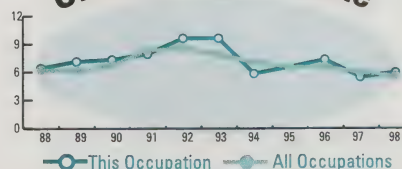
FAIR

FAIR

LIMITED

LIMITED

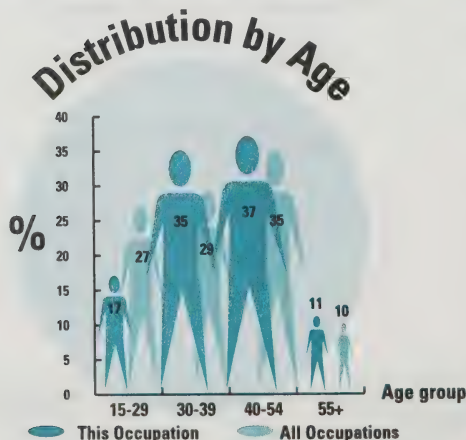
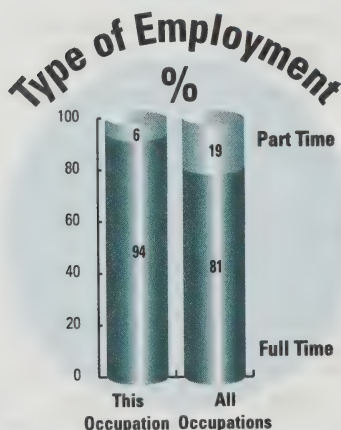
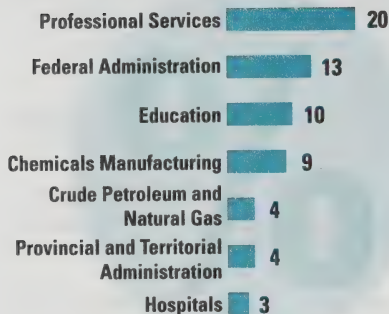
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Physical Science Professionals

Where They Work



At Work

These professionals work in government; universities; manufacturing and telecommunications companies; utilities; laboratories; hospitals; the chemical, petrochemical, pharmaceutical and pulp and paper industries; petroleum and mining companies; private consulting companies and other organizations. They may specialize within their fields.

- Physicists conduct basic research of natural phenomena and develop new processes and devices in areas such as electronics, aerodynamics, communications, power utilities, optics and lasers.
- Astronomers research the universe and develop instrumentation and software for astronomical observation and analysis.
- Chemists conduct research and are involved in process control, product development, industrial operations, environmental control, biotechnology and other areas.
- Geologists, geochemists and geophysicists conduct research and exploration to extend knowledge of the earth's surface and subsurface; locate mineral, hydrocarbon and water resources; plan and implement extraction programs; and conduct environmental assessments.
- Meteorologists forecast weather; conduct research into weather, climate and atmosphere; and provide consultation on atmospheric phenomena.
- Metallurgists study the properties and production of metals and alloys; materials scientists research ceramics, composite and other materials; and soil scientists research the composition and evolution of soils.

Education, Training & Experience

- Most of these professionals require a bachelor's degree in their science or a related discipline. Those conducting research or teaching in a post-secondary establishment usually require a master's or doctoral degree. Most recent entrants have an undergraduate university degree.
- Physicists and astronomers require a master's or doctoral degree.
- Geologists and geophysicists may require registration by a provincial or territorial association.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

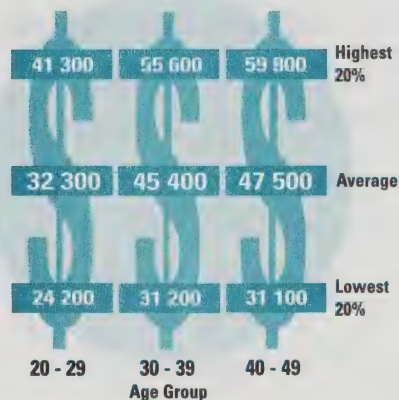
In These Occupations...

- 25,000 people were employed in 1998, a decrease of 15.7% from 1988. Most of the decline occurred from 1993 to 1998, when employment decreased 10.1%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 48% are chemists and 30% are geologists, geochemists and geophysicists.
- 6% work part-time, well below the average of 19% for all occupations.
- 14% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 23% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for professional occupations and for occupations in the natural and applied sciences sectors.
- the average earnings are comparable to those for other professional occupations and for other occupations in the natural and applied sciences sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, the outlook is expected to improve to "Fair". The number of job openings for physical science professionals is expected to increase more rapidly than the number of qualified job seekers, mostly due to a high retirement rate in these occupations.
- The employment of these professionals is closely related to investment in research and development. The pace of advances in knowledge is very rapid in these fields; consequently, these professionals require continual skill upgrading. There is a recent tendency toward increasing collaboration with specialists in other fields, such as engineering.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the professional services industry.

Earnings



Overall Average for All Ages (15+)

46 000	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

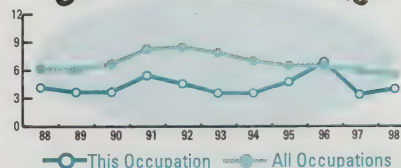
FAIR

FAIR

LIMITED

LIMITED

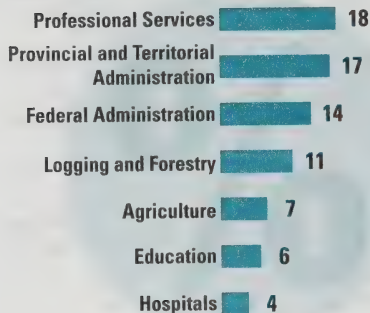
Unemployment Rate



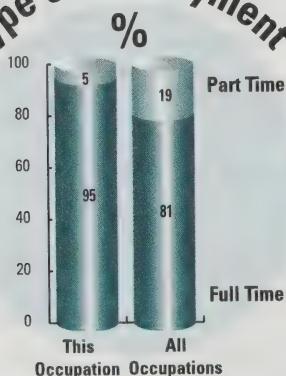
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Life Science Professionals

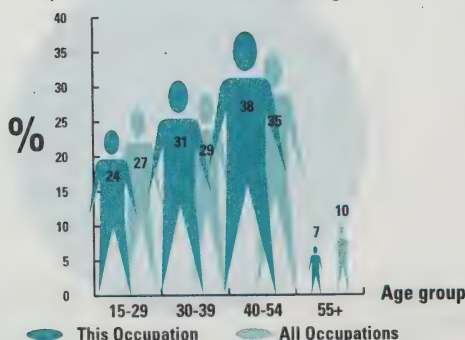
Where They Work



Type of Employment



Distribution by Age



At Work

Professionals in the life sciences work in biotechnology, chemical, pharmaceutical, food, health care, resource, environmental and consulting companies; in government; in educational institutions, including universities and research institutes; and in the forestry and agricultural sectors.

- Biologists conduct studies of the structure and characteristics of humans, plants and animals. They conduct environmental assessment studies, classify plant and animal specimens and carry out basic and applied research.
- Microbiologists and cell and molecular biologists research such areas as bacteria, fungi, viruses, tissues, cells, pharmaceuticals and plant and animal toxins.
- Forestry professionals research, plan, administer and direct forestry management and harvesting programs. They conduct forestry education and extension programs and act as consultants on forestry issues.
- Agricultural representatives, consultants and specialists provide information and advice regarding nutrition to companies, government and the public.

This occupational group also includes consultants and specialists such as geneticists, food and nutrition scientists and toxicologists.

Education, Training & Experience

- People in this group require a university degree in biology or a related discipline. Most recent entrants have an undergraduate or graduate university degree.
- Research scientists in biology or a related field require a master's or doctoral degree to work in the government or private sector. They must have postdoctoral research experience for employment in academic or research institutions.
- Forestry professionals require a forestry or forest engineering degree. Registration as a forester or forest engineer, which requires two years of supervised work and examinations, is required in provinces with forestry associations.
- Agricultural professionals require a bachelor's or master's degree and usually require agrologist (P.Ag.) membership or membership eligibility. In Quebec, they must be members of the Ordre des agronomes du Québec.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

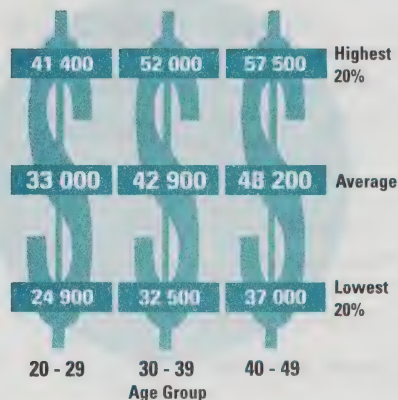
In These Occupations...

- 17,000 people were employed in 1998, an increase of 8.1% from 1988. After employment gains of 5.8% from 1988 to 1993, employment growth slowed to 2.2% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 55% are biologists; 25% are forestry professionals; and 20% are agricultural representatives, consultants and specialists.
- 5% work part-time, well below the average of 19% for all occupations.
- 11% are self-employed, compared to an average of 17% for all occupations.
- 27% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4.4% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for professional occupations.
- the average earnings are comparable to those for other professional occupations and for other occupations in the natural and applied sciences sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average and earnings are above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Government spending restrictions have had a negative impact on several occupations in this group. In particular, spending restrictions on environmental research and monitoring may decrease demand for biologists. Similarly, spending restrictions in drug and food research and monitoring may decrease demand for pharmacologists, toxicologists and food and nutrition scientists. On the other hand, public interest in environmental and health issues may slow or reverse this trend.
- The area of strongest growth for these occupations may be pharmaceuticals and biotechnology, especially agricultural biotechnology. Biotechnology is a relatively small industry, but is growing rapidly.
- Employment requirements in these occupations are expected to increase through 2004 across a broad range of industries, with much of the increase occurring in the professional services industry.

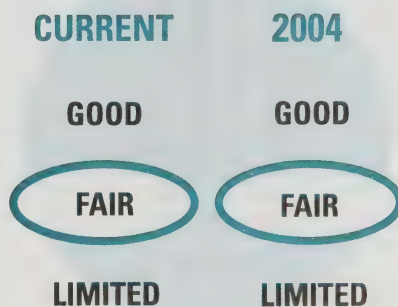
Earnings



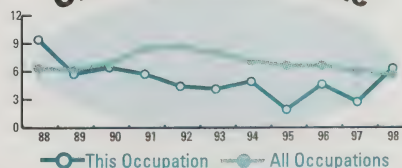
Overall Average for All Ages (15+)

44 100	37 400
This Occupation	All Occupations

Work Prospects



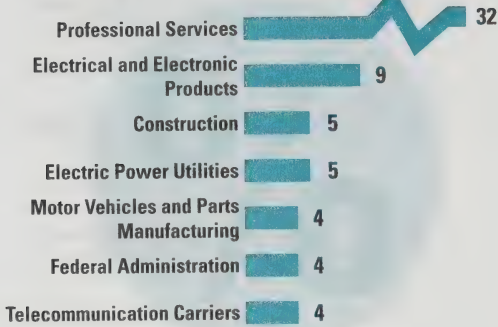
Unemployment Rate



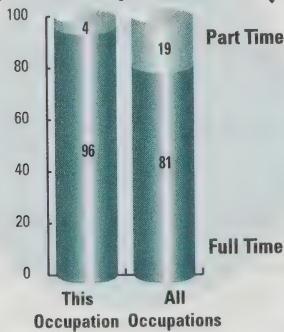
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Civil, Mechanical, Electrical and Chemical Engineers

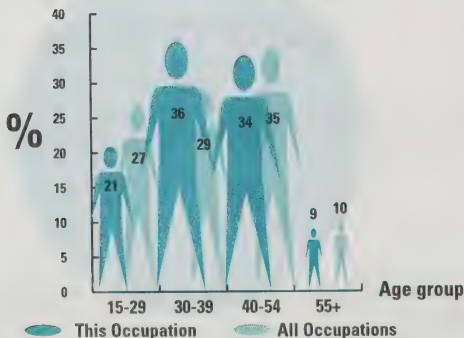
Where They Work



Type of Employment



Distribution by Age



At Work

These engineers work in government; engineering consulting firms; electrical utilities; research and educational institutions; communications companies; the manufacturing, processing and transportation industries; and many other industries.

- Civil engineers plan, design, evaluate, research and manage projects for the construction and repair of structures such as buildings, roads, tunnels, airports, rapid transit facilities, bridges, dams, ports and coastal installations, and systems related to highway and transportation services, water distribution and sanitation.
- Mechanical engineers plan, design, evaluate, research and manage projects related to the operation of machinery and systems for heating, ventilation and air conditioning, power generation, transportation, processing and manufacturing.
- Electrical and electronics engineers plan, design, evaluate, research and manage projects related to electrical generation and distribution networks, electrical machinery and components, and electronic communications, instrumentation and control systems, equipment and components.
- Chemical engineers plan, design, evaluate, research and manage projects related to chemical processes and equipment, oversee the operation and maintenance of processing plants, and perform activities related to quality control, environmental protection, biochemical and biotechnical engineering and other areas.

Education, Training & Experience

- Engineers in this group require a university degree in the discipline of engineering they represent or in a related discipline. Most recent entrants have an undergraduate university degree.
- To practise engineering, they usually require registration as a Professional Engineer (P.Eng./ing.) by a provincial or territorial association of professional engineers.
- In Quebec, they must be members of the Ordre des ingénieurs du Québec.

**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

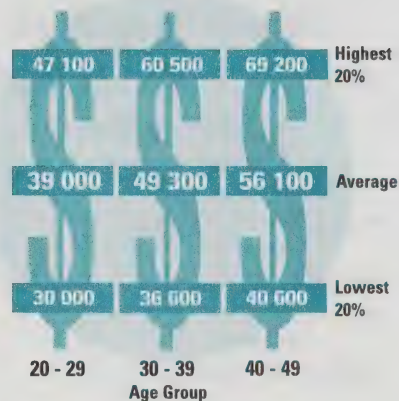
In These Occupations...

- 95,000 people were employed in 1998, an increase of 22.4% from 1988. After employment gains of 13.8% from 1988 to 1993, employment growth slowed to 7.6% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 33% are electrical and electronics engineers; 32% are civil engineers; and 26% are mechanical engineers.
- 4% work part-time, well below the average of 19% for all occupations.
- 12% are self-employed, compared to an average of 17% for all occupations.
- 9% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 2.5% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for professional occupations and for occupations in the natural and applied sciences sectors.

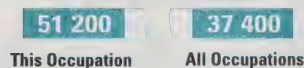
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The rapid pace of technological change in engineering means that these professionals must be committed to continually upgrading their skills. Often these will be skills in another area of engineering or in management.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the professional services and electrical and electronic products industries.

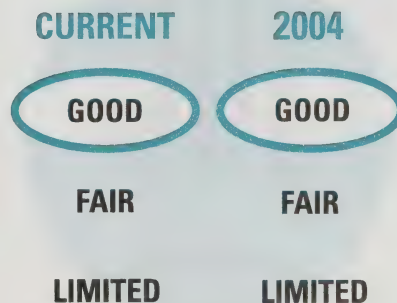
Earnings



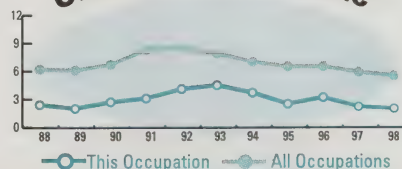
Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



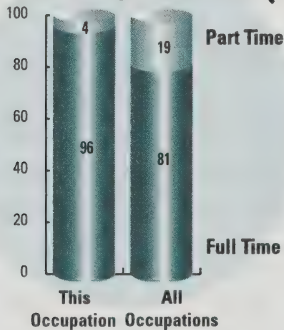
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Civil Engineers

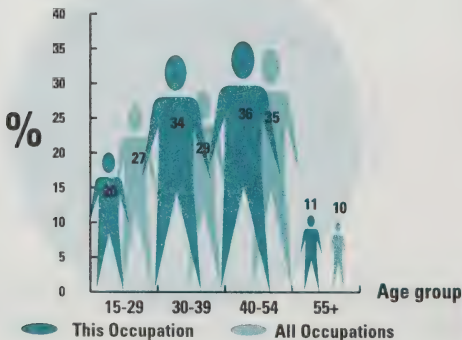
Where They Work



Type of Employment



Distribution by Age



At Work

Civil engineers work for engineering consulting companies, construction companies, municipal and other levels of government, and many other industries. They may also be self-employed.

- They plan, design, develop and manage a variety of major civil engineering projects including the construction and repair of buildings, roads, airports, railways, bridges, dams, ports and water distribution and sanitation systems.
- They may specialize in foundation analysis, building and structural inspection, surveying and municipal planning.
- They often work with professionals from other fields, gaining knowledge and skills that allow them to practise in associated areas of science, engineering, sales, marketing and management.

Education, Training & Experience

- Civil engineers require a university degree in civil engineering or in a related field of engineering. Most recent entrants have an undergraduate university degree.
- They are required to register as a Professional Engineer (P.Eng./ing.) with a provincial or territorial association of professional engineers to secure employment and practise in their field.
- For those with an undergraduate degree from an accredited program, eligibility requirements for registration as a P.Eng./ing. include four years' supervised experience (two in Quebec) and successful completion of a professional practice examination.
- For those without a degree from an accredited program, eligibility for registration as a P.Eng./ing. requires a term of supervised employment and successful completion of technical examinations and a professional practice examination.
- With experience, they can progress to supervisory and senior positions.

Check out the 'big picture' in
"World of Work: Overviews and Trends"

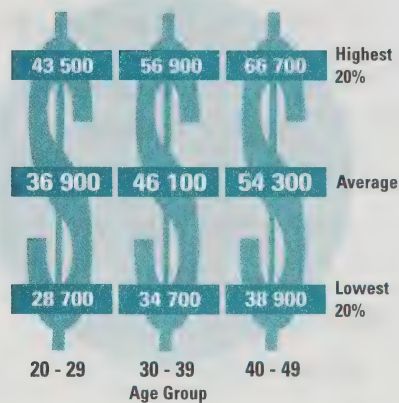
In These Occupations...

- 30,000 people were employed in 1998, an increase of 19.8% from 1988. After employment gains of 15.4% from 1988 to 1993, employment growth slowed to 3.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 4% work part-time, well below the average of 19% for all occupations.
- 15% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 9% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 3.6% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other professional occupations and for other occupations in the natural and applied sciences sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Continuing economic growth may lead to an increase in large-scale construction projects, boosting the demand for civil engineers.
- Globalization of civil engineering services may mean that many opportunities in large-scale construction projects will be outside Canada.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the professional services and construction industries.

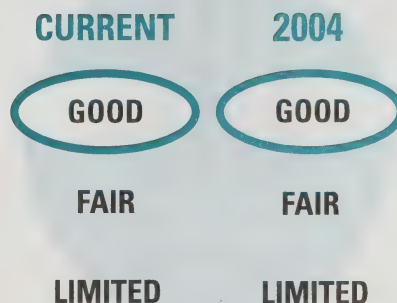
Earnings



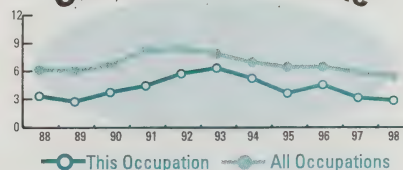
Overall Average for All Ages (15+)

49 500	37 400
This Occupation	All Occupations

Work Prospects



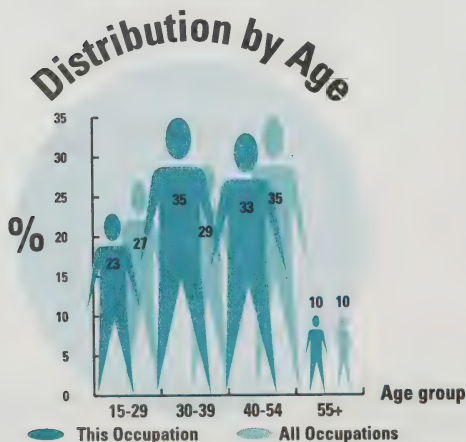
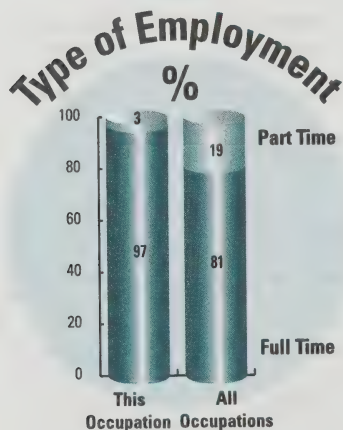
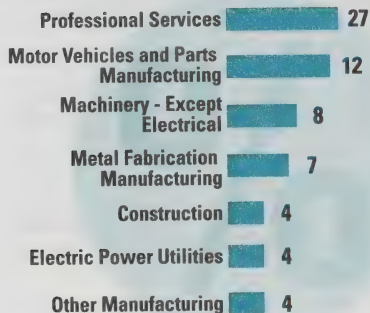
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Mechanical Engineers

Where They Work



At Work

Mechanical engineers work for consulting firms, power generating utilities and a wide range of manufacturing, processing and transportation industries. They may also be self-employed.

- They research, design and develop machinery and systems for heating, ventilating and air conditioning, power generation, transportation, processing and manufacturing.
- They have duties related to the evaluation, installation, operation and maintenance of mechanical systems.
- They often work with professionals from other fields, gaining knowledge and skills that may allow them to practise in associated areas of science, sales, marketing and management.
- They also work closely with civil, electrical, aerospace, chemical, industrial and other engineers, resulting in job mobility between some fields of specialization in these disciplines.

Education, Training & Experience

- Mechanical engineers usually require a university degree in mechanical engineering or in a related field of engineering. Most recent entrants have an undergraduate university degree.
- They are required to register as a Professional Engineer (P.Eng./ing.) with a provincial or territorial association of professional engineers to secure employment and practise in their field.
- For those with a degree from an accredited program, eligibility requirements for registration as a P.Eng./ing. include four years' supervised experience (two in Quebec) and successful completion of a professional practice examination.
- For those without a degree from an accredited program, eligibility for registration as a P.Eng./ing. requires a term of supervised employment and successful completion of technical examinations and a professional practice examination.
- With experience, they can progress to supervisory and senior positions.

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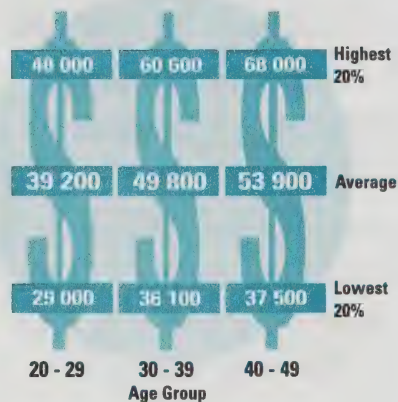
In These Occupations...

- 25,000 people were employed in 1998, an increase of 31.9% from 1988. This reflects an increase of 15.8% from 1988 to 1993 and 13.9% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 3% work part-time, well below the average of 19% for all occupations.
- 14% are self-employed, compared to an average of 17% for all occupations.
- 7% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 2.3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the natural and applied sciences sectors.
- the average earnings are among the highest for professional occupations but are comparable to those for other occupations in the natural and applied sciences sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The growing use of electronics in machinery and process control will lead to an increased overlap between mechanical and electrical and electronic engineering. Many mechanical engineers will need skills in this area.
- Labour market conditions for mechanical engineers are highly dependent on the success of Canadian manufacturing industries. Manufacturing is a strongly cyclical industry whose results depend on the exchange rate and on the strength of foreign economies, as well as on the strength of Canadian domestic economic conditions.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the professional services and non-electrical machinery industries.

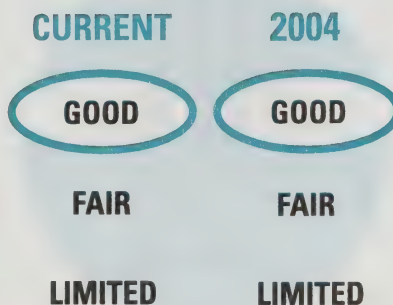
Earnings



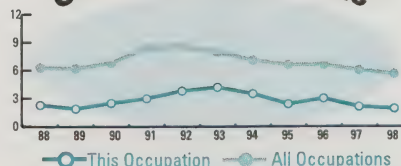
Overall Average for All Ages (15+)

50 000	37 400
This Occupation	All Occupations

Work Prospects



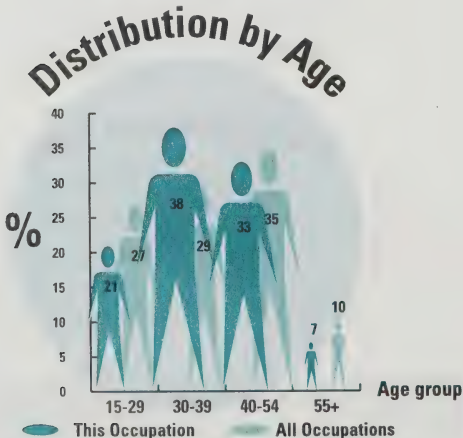
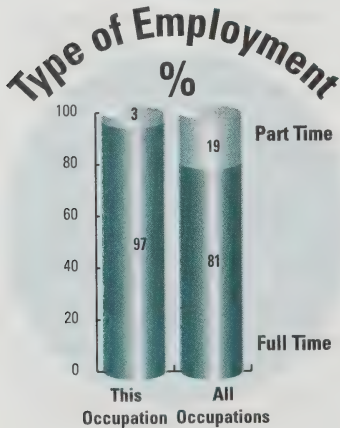
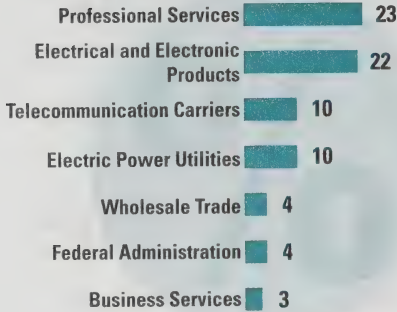
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Electrical and Electronics Engineers

Where They Work



At Work

These engineers work in electrical utilities; communications companies; firms manufacturing electrical and electronic equipment; consulting firms; a wide range of manufacturing, processing and transportation industries; and government.

- They design, plan, research, evaluate and test the operation and performance of electrical and electronic equipment and systems.
- They may specialize in a number of areas including electrical design for residential, commercial or industrial installations; electrical power generation and transmission; communications systems; instrumentation and control systems; analog and digital signal processing; integrated circuits; microwave technology; film optics; computers; lasers; microprocessors and radio astronomy.
- They often work with professionals from other fields, gaining knowledge and skills that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Education, Training & Experience

- Electrical and electronics engineers need a university degree in electrical or electronics engineering or in a related field of engineering. Most recent entrants have an undergraduate university degree.
- They are required to register as a Professional Engineer (P.Eng./ing.) with a provincial or territorial association to secure work in their field.
- For those with an undergraduate degree from an accredited program, eligibility requirements for registration as a professional engineer include at least four years' supervised experience (two in Quebec) and successful completion of a professional practice examination.
- For those without a degree from an accredited program, eligibility for registration as a professional engineer requires a term of supervised employment and the successful completion of technical examinations and a professional practice examination.
- With experience, they can progress to supervisory and senior positions.

**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

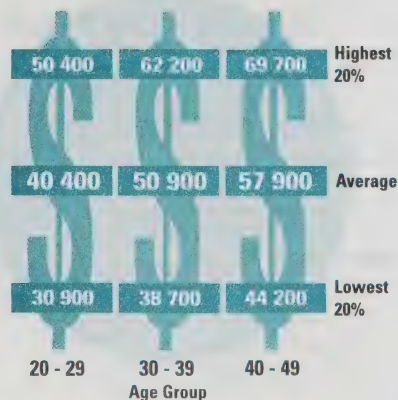
In These Occupations...

- 32,000 people were employed in 1998, an increase of 20.5% from 1988. After employment gains of 16.2% from 1988 to 1993, employment growth slowed to 3.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 3% work part-time, well below the average of 19% for all occupations.
- 10% are self-employed, compared to an average of 17% for all occupations.
- 9% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 1.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for professional occupations and for occupations in the natural and applied sciences sectors.
- the average earnings are among the highest for professional occupations and for occupations in the natural and applied sciences sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Firms in this area face intense international competition, requiring their engineers to be at the leading edge of their field, with a need to continually update their skills.
- There are likely to be significant new opportunities for these engineers in setting up computerized production systems. This may increasingly require electrical and electronics engineers to work with mechanical engineers.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the electrical and electronics products and professional services industries.

Earnings



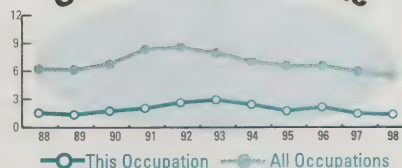
Overall Average for All Ages (15+)

52 700	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



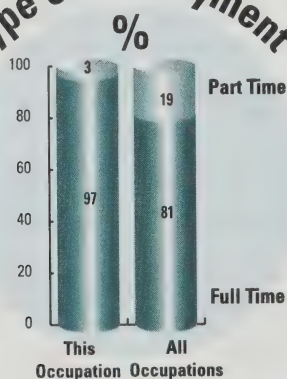
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Other Engineers

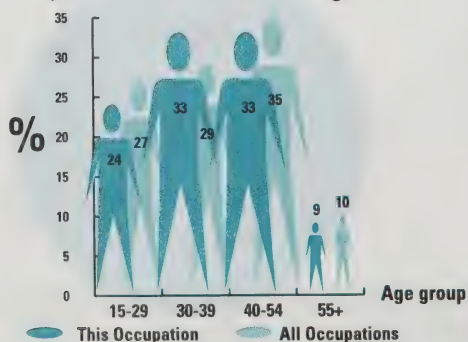
Where They Work



Type of Employment



Distribution by Age



At Work

These engineers are employed throughout the public and private sectors.

- Industrial and manufacturing engineers increase the efficiency of business processes and of human resources and equipment.
- Metallurgical and materials engineers design and develop processes and equipment to concentrate, extract, refine and process metals and other materials.
- Mining engineers plan and design the development of mines; mining facilities, equipment and systems; and mining operations.
- Geological engineers analyze geological and geotechnical conditions for civil engineering, mining and other projects.
- Petroleum engineers research, develop and supervise projects associated with the drilling, completion, testing and reworking of oil and gas wells.
- Aerospace engineers research, design and develop aircraft, spacecraft, missiles, satellites, aerospace systems and their components.
- Computer engineers design, develop and test computer hardware and software.
- Agricultural engineers design agricultural machinery and systems. Engineering physicists and engineering scientists conduct research and develop new processes and equipment to expand basic knowledge in engineering.
- Biomedical engineers design and develop medical instruments and equipment.
- Naval architectural engineers design and develop ships and floating structures.

Education, Training & Experience

- These engineers must have a university degree in their field of engineering. Most recent entrants have an undergraduate university degree.
- They must register as a Professional Engineer (P.Eng./ing.) with a provincial or territorial association of professional engineers.

*Check out the 'big picture' in
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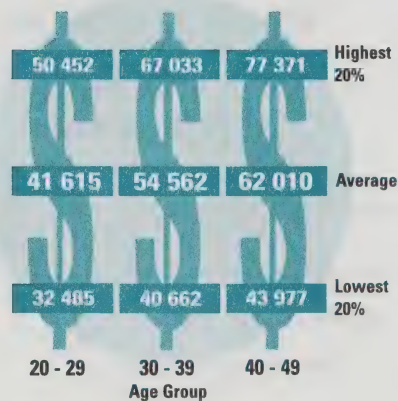
In These Occupations...

- 62,000 people were employed in 1998, an increase of 36.9% from 1988. After employment gains of 28.1% from 1988 to 1993, employment growth slowed to 6.9% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 37% are computer engineers and 21% are industrial and manufacturing engineers.
- 3% work part-time, well below the average of 19% for all occupations.
- 14% are self-employed, compared to an average of 17% for all occupations.
- 9% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 3% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other professional occupations and other occupations in the natural and applied sciences sectors.

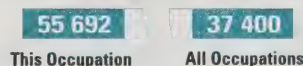
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average, although earnings are above the average level for all occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The rapid pace of technological change in engineering means that these professionals must be committed to continually upgrading their skills.
- Labour market conditions are likely to vary significantly among the various occupations in this group. Conditions in computer engineering and biomedical engineering are likely to remain very favourable.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the business services, electrical and electronic products and professional services industries.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



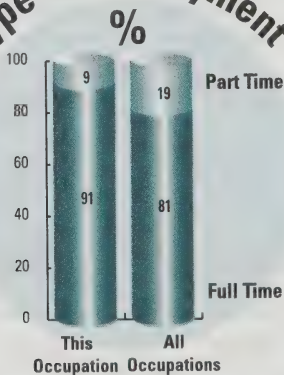
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Architects, Urban Planners and Land Surveyors

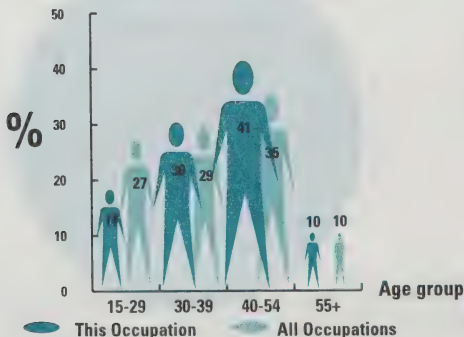
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in government; in architectural, engineering and landscape consulting and contracting firms; in private corporations; in private sector surveying firms; and for land developers. They may also be self-employed.

- Architects plan and develop designs for the construction and renovation of residential, commercial, institutional and industrial buildings.
- Landscape architects develop landscape designs and oversee the landscaping of commercial projects, office complexes, parks, golf courses and residences.
- Urban and land use planners prepare and recommend land development plans for urban and rural areas and remote regions.
- Land surveyors direct and conduct legal surveys to establish property boundaries, and prepare and maintain associated documents.

Education, Training & Experience

- People in these occupations usually require a university degree, although some have a community college diploma. Most recent entrants have an undergraduate university degree or a community college diploma.
- Architects must have a professional architecture degree and three years' experience with a registered architect, or studies from the Royal Architectural Institute of Canada syllabus program and eight years' experience with a registered architect. They must register with their provincial association and pass the Architect Regulation examination.
- Landscape architects require some design experience and registration or certification with their provincial association.
- Urban and land use planners usually belong to the Canadian Institute of Planners and, in some provinces, must belong to their provincial association. In Quebec, they must be members of the Ordre professionnel des urbanistes du Québec.
- Land surveyors must complete a degree in surveying engineering or survey science or pass the official land surveyor examinations. They must also article for one to three years and pass professional land survey examinations for a federal or provincial licence. To practise, they must be members of the provincial professional land surveyor association.

*Check out the 'big picture' in
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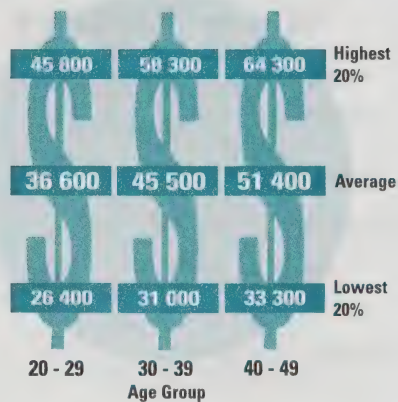
In These Occupations...

- 30,000 people were employed in 1998, an increase of 7.6% from 1988. Most of the growth occurred from 1993 to 1998, when employment increased 6.1%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 38% are architects; 30% are land surveyors; and 26% are urban and land use planners.
- 9% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the last ten years.
- 33% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 15% are women, well below the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 4% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other professional occupations and for other occupations in the natural and applied sciences sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Architects are likely to make increasing use of computerized design and engineering systems, which will require them to develop skills in these areas. Urban planners and surveyors are likely to work increasingly with computerized mapping systems. A new positioning technology, the Global Positioning System (GPS), is transforming the work of surveyors.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the professional services industry.

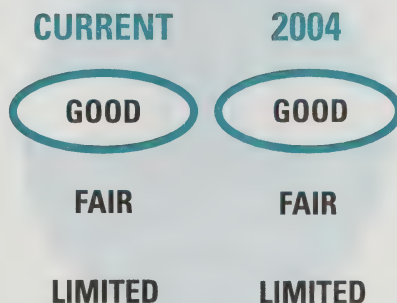
Earnings



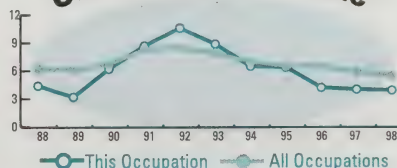
Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



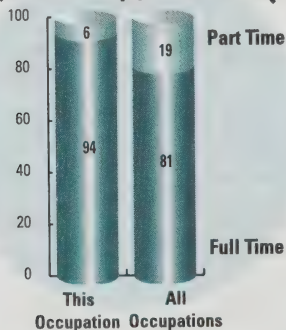
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Mathematicians, Systems Analysts and Computer Programmers

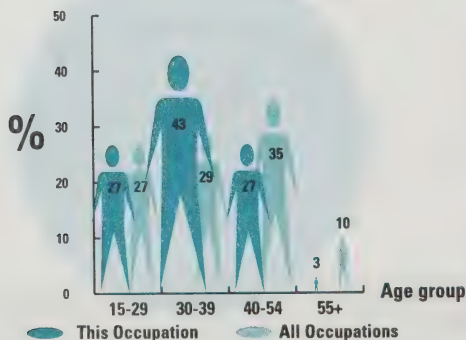
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in government; universities; bank, trust and insurance companies; science, engineering and computer consulting firms; and throughout the private sector.

- Mathematicians and statisticians develop and apply mathematical or statistical techniques to solve problems in fields such as physical and biological science, engineering, social science, business and economics.
- Actuaries apply mathematics, probability, statistics and risk theory to calculate future risks for insurance and annuity premiums and benefits.
- Computer systems analysts design computer systems to meet clients' information processing or computation needs. They also plan and implement computer security systems.
- Computer programmers write computer programs and software packages and maintain existing computer programs.

Education, Training & Experience

- People in this group usually require a university degree in their field of work or a college program in computer science. Most recent entrants have an undergraduate university degree or a community college diploma.
- Mathematicians and statisticians must have a graduate degree in mathematics or statistics.
- Actuaries usually need a university degree or college diploma in mathematics, statistics or operations research, three years' actuarial experience and accreditation with the Canadian Institute of Actuaries.
- Computer analysts and programmers usually require a university degree or college program in computer science.

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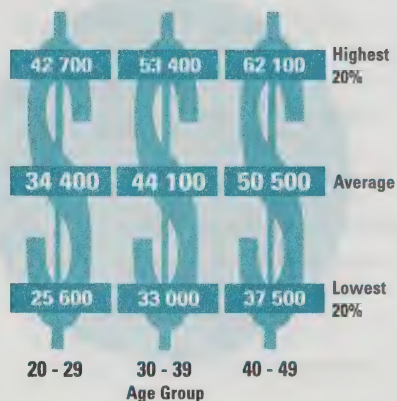
In These Occupations...

- 238,000 people were employed in 1998, an increase of 96.0% from 1988. This reflects an increase of 24.3% from 1988 to 1993 and 57.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 55% are computer systems analysts and 42% are computer programmers.
- 6% work part-time, well below the average of 19% for all occupations.
- 18% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 27% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 2.7% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other professional occupations and for other occupations in the natural and applied sciences sectors. Salaries for actuaries, however, are considerably higher than the overall average for this group.

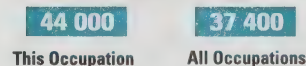
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Labour market conditions are strongest for computer analysts and programmers. Consolidation in the insurance industry is likely to lead to weaker conditions for actuaries, although they may move into new fields such as compensation consulting, health care and financial planning.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the business services industry.

Earnings



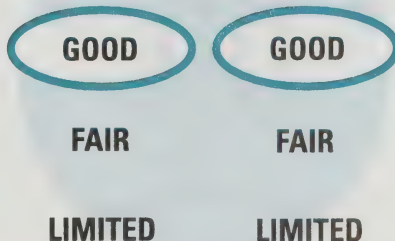
Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004



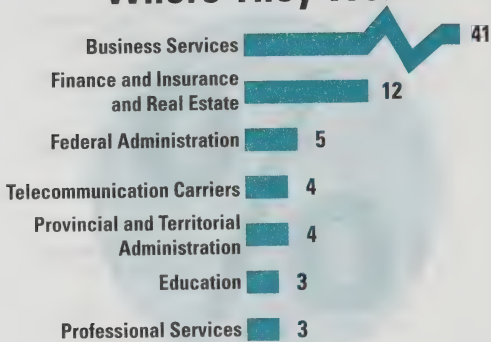
Unemployment Rate



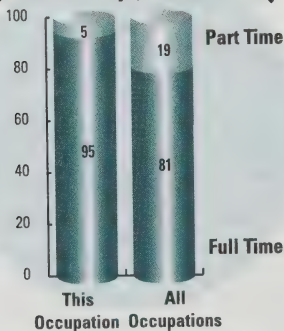
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Computer Systems Analysts

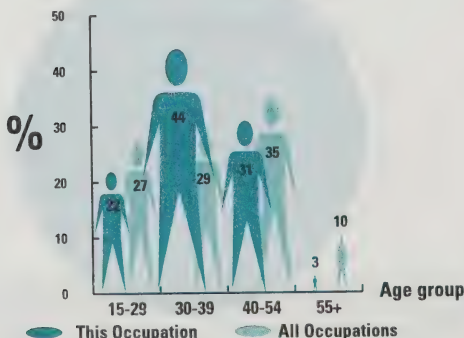
Where They Work



Type of Employment



Distribution by Age



At Work

These analysts work in computer consulting firms and computer systems units throughout the private and public sectors. Their duties may require them to:

- analyze and find computer solutions to clients' information processing, database or computation needs;
- write requirement specifications for computer programs, identifying steps in the program and required algorithms;
- test and implement computer programs and provide user training; plan and implement computer security systems for database access control; and
- analyze databases, develop database directories and generate and maintain databases; and supervise computer programmers or other systems analysts or serve as project leaders.

This occupation also includes business systems analysts, computer consultants, computer graphics specialists and electronic data processing analysts.

Education, Training & Experience

- These analysts must usually complete either a bachelor's degree, typically in computer science, mathematics, commerce or business administration, or a college program in computer science. Most recent entrants have an undergraduate university degree or a community college diploma.
- They must usually have experience as computer programmers.
- Those who wish to specialize in commercial or engineering and scientific applications must take specific college or university studies or obtain experience in those applications.
- With experience, they may progress to supervisory or senior positions or become information systems and data processing managers.

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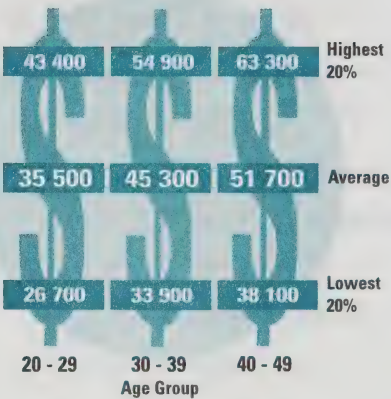
In These Occupations...

- 131,000 people were employed in 1998, an increase of 112.4% from 1988. After employment gains of 33.2% from 1988 to 1993, employment grew 59.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 5% work part-time, well below the average of 19% for all occupations.
- 15% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the past ten years.
- 29% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 2.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the natural and applied sciences sectors.
- the average earnings are comparable to those for other professional occupations and for other occupations in the natural and applied sciences sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Systems analysts will need to keep up with rapid changes in programming languages and techniques. They also require good interpersonal and communication skills to be able to understand the nature of client requirements and to convey information about technical occupations to clients who typically have little knowledge of information systems.
- Job opportunities related to the year 2000 problem will disappear, so that analysts who have been working in this area will need to move into other fields. This may require updating their skills.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the business services industry.

Earnings



Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



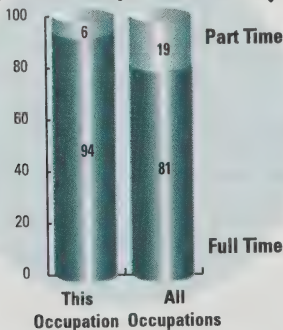
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Computer Programmers

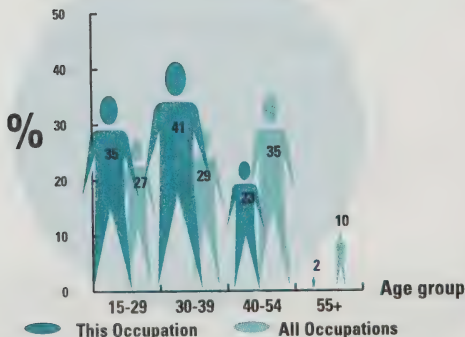
Where They Work



Type of Employment



Distribution by Age



At Work

Computer programmers work in computer software and consulting firms and in programming units throughout the private and public sectors. Their duties may require them to:

- write computer programs or software packages by coding instructions into machine-readable form;
- test, debug, document and implement computer programs or software packages;
- maintain existing computer programs by making minor changes as required; and
- act as a resource person, solving computer problems for users.

Education, Training & Experience

- Computer programmers must usually complete either a bachelor's degree in computer science or in another discipline with a significant programming component such as mathematics, commerce or business administration, or a college program in computer science. Most recent entrants have an undergraduate university degree or a community college diploma.
- Those who wish to specialize in commercial or engineering and scientific applications must take specific college or university studies or obtain experience in those applications.
- With experience, they may progress to senior positions, such as programmer analyst, or become computer systems analysts.

In These Occupations...

- 99,000 people were employed in 1998, an increase of 86.0% from 1988. Most of the growth occurred from 1993 to 1998 when employment increased 64.3%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 6% work part-time, well below the average of 19% for all occupations.
- 23% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 24% are women, well below the average of 45% for all occupations.

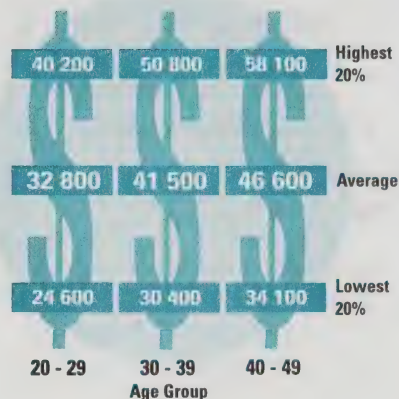
*Check out the 'big picture' in
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- the unemployment rate averaged 3.6% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for professional occupations but are comparable to those for other occupations in the natural and applied sciences sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Success for programmers will require keeping up with rapidly changing programming languages and techniques.
- Job opportunities related to the year 2000 problem will disappear, so that programmers who have been working in this area will need to move into other fields. This may require updating their skills.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the business services industry.

Earnings



Overall Average for All Ages (15+)

40 500	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

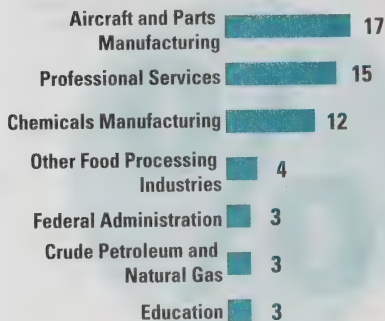
Unemployment Rate



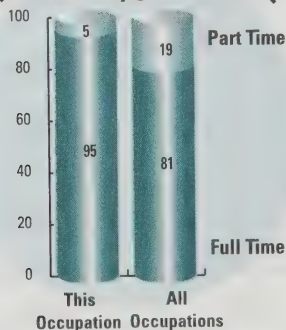
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Technical Occupations in Physical Sciences

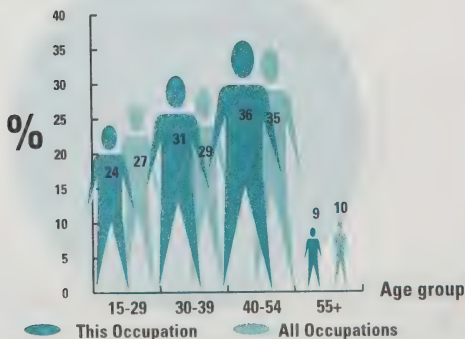
Where They Work



Type of Employment



Distribution by Age



At Work

People in these occupations work in government; research and development and quality control laboratories; engineering and geological consulting firms; petroleum and mining companies; chemical, petrochemical, pharmaceutical and other manufacturing and processing industries; utilities; and health and educational institutions.

- Chemical technologists and technicians conduct laboratory tests, sampling programs, studies and other activities in chemical engineering, chemical and biochemical research, industrial chemistry, chemical quality control and environmental monitoring.
- Geological and mineral technologists and technicians conduct, or participate in, geological, geophysical, geochemical, hydrographic and oceanographic surveys, prospecting field trips, exploratory well drilling, keeping logs of wells and underground mine survey programs.

Education, Training & Experience

- People in these occupations must have a college or technical institute diploma. They often need certification by a professional organization in their field. Many recent entrants have a community college diploma.
- Chemical technologists and technicians usually have a college or technical school diploma in chemical, biochemical or chemical engineering technology, or in a closely related discipline.
- Geological and mineral technologists and technicians usually need a college or technical institute diploma in geological, petroleum, mining, mining engineering, hydrogeology or ground water, mineralogy, metallurgical or welding technologies.
- Geophysics technologists may require a college or technical institute diploma in geophysics, petroleum or electronics technology.

**Check out the 'big picture' in
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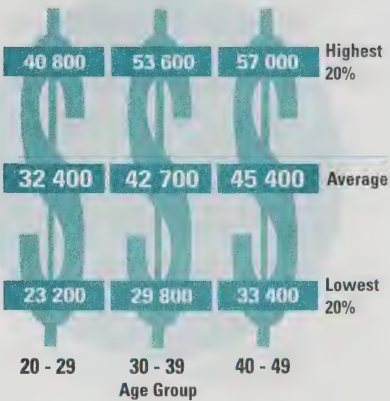
In These Occupations...

- 25,000 people were employed in 1998, an increase of 25.3% from 1988. After employment gains of 21.0% from 1988 to 1993, employment growth slowed to 3.6% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 70% are applied chemical technologists and technicians and 27% are geological and mineral technologists and technicians.
- 5% work part-time, well below the average of 19% for all occupations.
- 9% are self-employed, compared to the average of 17% for all occupations.
- 35% are women, compared to an average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 3.9% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and are comparable to those for other occupations in the natural and applied sciences sectors.

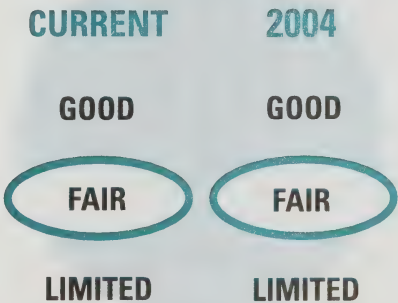
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average, although earnings are above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- People who work in these occupations must foresee periods of retraining and professional development as technology changes. Increasingly, they will be required to obtain certification in their field.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the professional services industry and in education.

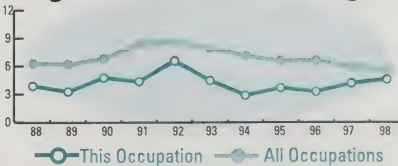
Earnings



Work Prospects



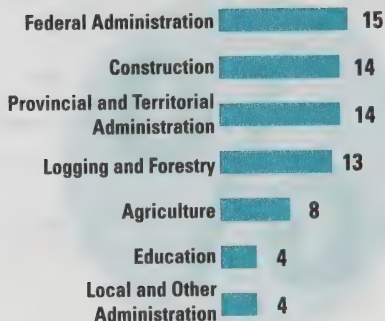
Unemployment Rate



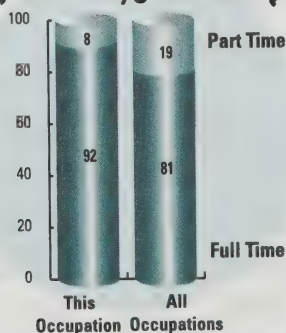
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Technical Occupations in Life Sciences

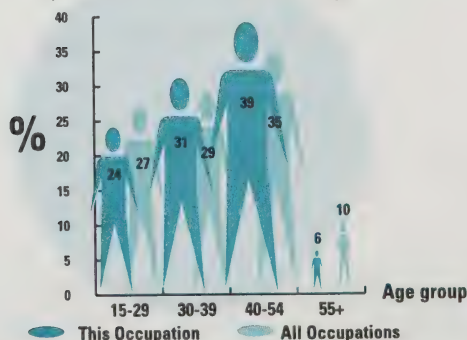
Where They Work



Type of Employment



Distribution by Age



At Work

People in these occupations work in government, in the forestry and agriculture industries, and throughout the private sector.

- Biological technologists and technicians do biological tests, laboratory analyses, field tests and surveys in natural resources, agriculture and health sciences.
- Agricultural, fish products, meat and other food products inspectors check products to ensure that processing conforms to standards of production, storage and transportation.
- Forestry technologists and technicians work in forestry research, management, harvesting, resources, conservation and protection.
- Landscape designers and landscape architectural technologists and technicians assist landscape architects by surveying and assessing sites, and preparing drawings and sketches of landscape environments.

This group also includes conservation and fishing officers, horticulturists and other specialists in landscaping.

Education, Training & Experience

- People in these occupations must have a college or technical institute diploma and usually require specialized training. They often need certification by a professional organization in their field. Many recent entrants have a community college diploma.
- Biological technologists and technicians usually need a college diploma or university degree related to agriculture, biology, microbiology, wildlife or resource management.
- Agricultural and fish products inspectors require a university degree or college diploma in agriculture, biology or a related program, or several years' experience in agricultural production or fish processing.
- Forestry technologists and technicians usually have a college diploma in a forestry technology, renewable resources or forest ranger program.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

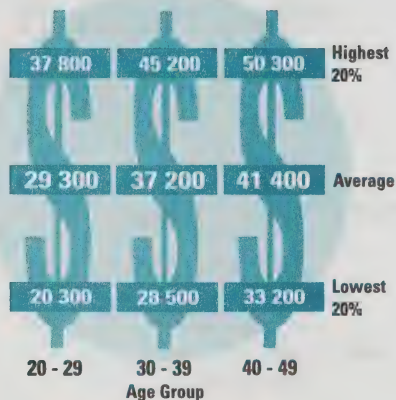
In These Occupations...

- 31,000 people were employed in 1998, an increase of 2.0% from 1988. However, after rising 2.2% over the 1988 to 1993 period, employment decreased 0.2% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 25% are forestry technologists and technicians; 25% are biological technologists and technicians; and 24% are landscape and horticultural technologists and technicians.
- 8% work part-time, well below the average of 19% for all occupations.
- 6% are self-employed, well below the average of 17% for all occupations.
- 26% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 11.4% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations and for occupations in the natural and applied sciences sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations but among the lowest for occupations in the natural and applied sciences sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities are well below average, although earnings are at the average level.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- People working in these fields should plan on periods of retraining and professional development to learn new technologies. Increasingly, they will need certification from a professional organization in their field.
- Employment requirements for these occupations are expected to increase across a broad range of industries through 2004.

Earnings



Overall Average for All Ages (15+)

40 000	37 400
This Occupation	All Occupations

Work Prospects

CURRENT 2004

GOOD GOOD

FAIR FAIR

LIMITED

LIMITED

Unemployment Rate



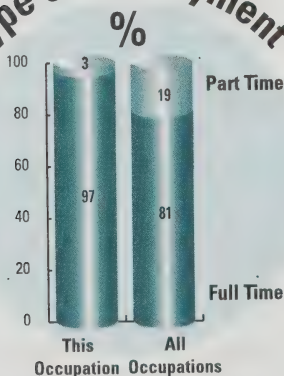
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Technical Occupations in Civil, Mechanical and Industrial Engineering

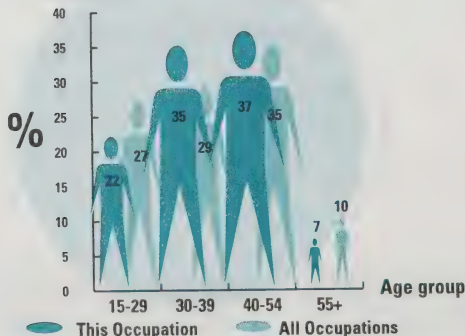
Where They Work



Type of Employment



Distribution by Age



At Work

People in these occupations work in government; in transportation, engineering consulting and construction companies; for trade contractors; in manufacturing and processing companies; and in many other industries.

- Civil engineering technologists and technicians provide support in the development of engineering designs from preliminary concepts, and prepare specifications and cost estimates for structural and municipal engineering, construction supervision, water resources, highways and other civil engineering projects.
- Mechanical engineering technologists and technicians provide support in the preparation of engineering designs, drawings and specifications for machinery, heating and ventilating systems, and tools, moulds and other equipment.
- Industrial engineering technologists and technicians provide technical support in the development of production methods, facilities and systems, and in the planning, estimating, measuring and scheduling of work.

Education, Training & Experience

- People in these occupations usually need a college diploma in their field of work. Many recent entrants have a community college diploma.
- They usually require certification by a provincial association, which is obtained after several years' experience.
- Industrial engineering and manufacturing technologists and technicians usually take a technical school or college program in a technological area such as industrial engineering technology, pulp and paper, plastics, textiles or manufacturing.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

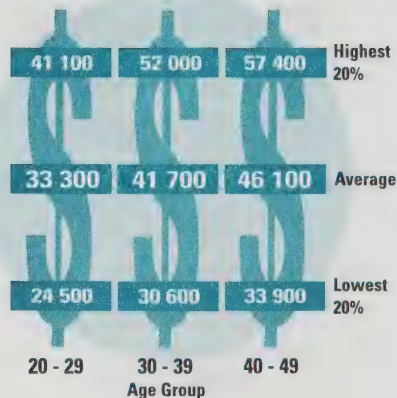
In These Occupations...

- 34,000 people were employed in 1998, an increase of 17.0% from 1988. After employment gains of 10.6% from 1988 to 1993, employment growth slowed to 5.8% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 53% are civil engineering technologists and technicians and construction estimators; 26% are mechanical engineering technologists and technicians; and 21% are industrial engineering and manufacturing technologists and technicians.
- 3% work part-time, well below the average of 19% for all occupations.
- 4% are self-employed, well below the average of 17% for all occupations.
- 17% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4.0% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and are comparable to those for other occupations in the natural and applied sciences sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- People in these occupations should plan on periods of retraining and professional development to keep up with rapidly changing technology in their field. Continued movement towards just-in-time production means that industrial engineering technicians will need to improve their computer skills.
- Most of the increase in employment requirements through 2004 in these occupations is expected to occur in the construction and professional services industries.

Earnings



Overall Average for All Ages (15+)

\$42,400	\$37,400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

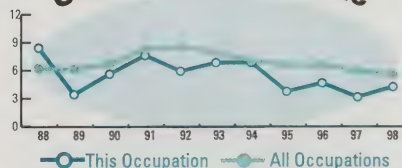
FAIR

FAIR

LIMITED

LIMITED

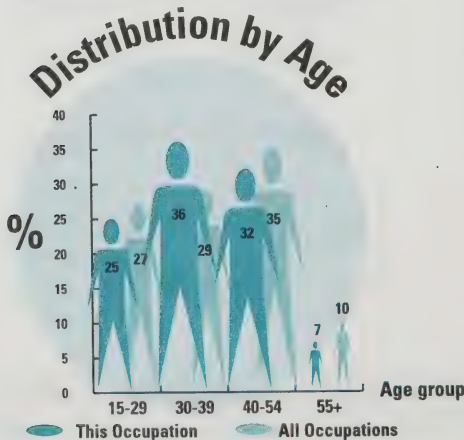
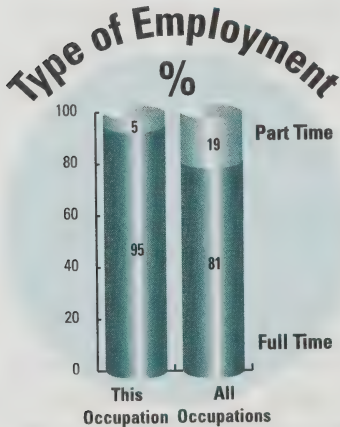
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Technical Occupations in Electronics and Electrical Engineering

Where They Work



At Work

People in these occupations work in wholesale and retail trade, business services, manufacturing, transportation, utilities, construction, government and the Canadian Forces.

- Electrical, instrumentation and electronics engineering technologists and technicians contribute expertise in the design, development, testing, production and operation of electrical and electronic equipment and systems and their application.
 - Aircraft instrument, electrical and avionics mechanics and technicians repair and overhaul instrumentation and electrical and avionics systems.
 - Avionics inspectors inspect and test aircraft systems.
- This group also includes electronic service technicians and industrial instrument technicians.

Education, Training & Experience

- People in this group need a community college or technical school diploma and specialized training. Electrical, instrumentation and electronics engineering technologists and technicians usually complete a college program in electrical or electronics technology, computers, instrumentation, telecommunications or the equivalent. Many recent entrants have a community college diploma.
- Aircraft instrument and avionics mechanics and technicians usually complete a company-sponsored training program.
- Aircraft electrical mechanics and technicians may require a college electrical or electronics program.
- Avionics inspectors require a college or technical school program in avionics or electronics. They usually require certification by a provincial association which is obtained after several years of experience.
- Qualified electronics technicians (consumer products) and industrial instrument mechanics may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

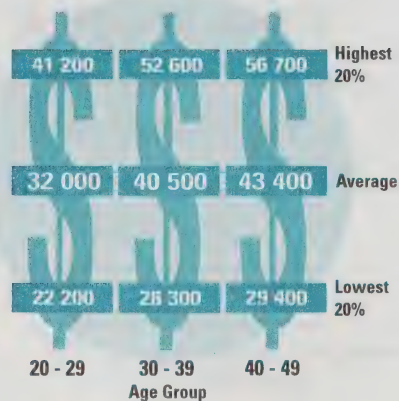
In These Occupations...

- 100,000 people were employed in 1998, an increase of 43.1% from 1988. This reflects an increase of 11.4% from 1988 to 1993 and 28.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 53% are electronics service technicians and 33% are electrical and electronics engineering technologists and technicians.
- 5% work part-time, well below the average of 19% for all occupations.
- 9% are self-employed, compared to an average of 17% for all occupations.
- 9% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical occupations.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and are comparable to those for other occupations in the natural and applied sciences sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are well above average and earnings are above the average level for comparable occupations.
- Over the next five years, the outlook is expected to weaken to "Fair". A large influx of recent graduates looking for work in these occupations is expected to lead to rapid growth in the number of qualified job seekers. As a result, despite significant growth in employment opportunities, the number of job seekers is expected to exceed the number of job openings.
- People working in these occupations should expect to need intermittent retraining and professional development to keep up with rapid technological change.
- Most of the increase in employment requirements through 2004 for these occupations will occur in the business services, electrical and electronic products and wholesale trade industries.

Earnings



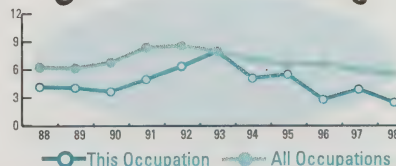
Overall Average for All Ages (15+)

40 500	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



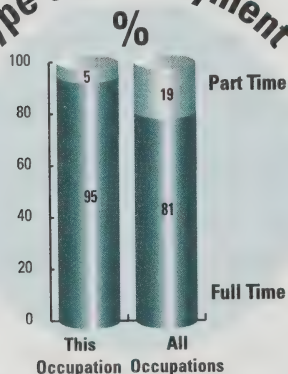
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Technical Occupations in Architecture, Drafting, Surveying and Mapping

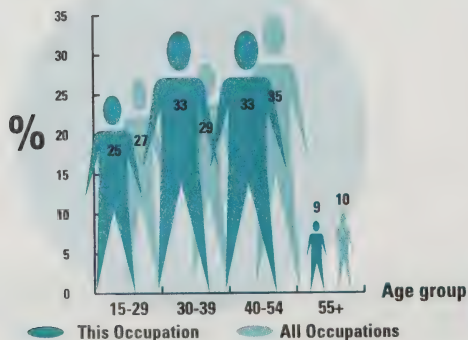
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in government; architectural and construction companies; utility, resource and manufacturing industries; private sector design, surveying, mapping and computer software firms; and other organizations.

- Architectural technologists and technicians research and prepare drawings and contracts for professional architects and civil design engineers.
- Industrial designers create and produce designs for consumer, industrial and business products.
- Drafting technologists and technicians use computer-aided design and drafting (CAD) and other drafting equipment to prepare designs and drawings.
- Survey technologists and technicians conduct or participate in field surveys to determine exact locations and positions of natural features and other structures. This may include use of Global Positioning System (GPS) equipment.
- Mapping and related technologists and technicians prepare maps, interpret aerial photographs and operate airborne remote and in-house sensing and interpretive equipment and the Geographic Information System (GIS).

Education, Training & Experience

- People in this group usually require a college, technical institute or university education, or specialized training. Many recent entrants have a community college diploma.
- Technologists usually need a two- to three-year college program in their area of work.
- Technicians usually need a one- to two-year college program in their area of work.
- They may require certification by a professional or technical association and other memberships.

In These Occupations...

- 49,000 people were employed in 1998, a decrease of 4.6% from 1988. Most of the decline occurred from 1988 to 1993, when employment decreased 4.1%. Employment declined 0.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 66% are drafting technologists and technicians.

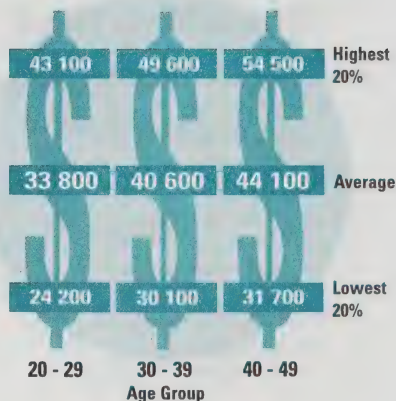
**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

- 5% work part-time, well below the average of 19% for all occupations.
- 14% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 19% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the natural and applied sciences sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and are comparable to those for other occupations in the natural and applied sciences sectors.
- employment changes tend to mirror movements in overall economic activity.

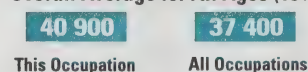
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Increasing use of computerized design and engineering technology, and of computerized mapping systems and satellite positioning systems, is transforming these occupations. Workers will need to develop the appropriate skills and will need intermittent retraining and professional development to keep up with new technologies.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the professional services and non-electrical machinery industries.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Drafting Technologists and Technicians

Where They Work



At Work

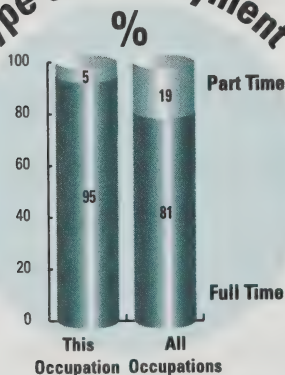
People in this occupation work in consulting and construction companies; in utility, resource and manufacturing companies; in all levels of government; and in a wide range of other organizations.

- Drafting technologists develop and prepare engineering designs and drawings from sketches, engineering calculations, specification sheets and other data. They may write technical reports; submit construction specifications, costs and materials estimates; and prepare contracts and tender documents.
- Drafting technicians plan and prepare engineering drawings, plans, diagrams and layouts.
- They may work independently, in teams with engineers from many disciplines, or as support for engineers, architects and industrial designers.

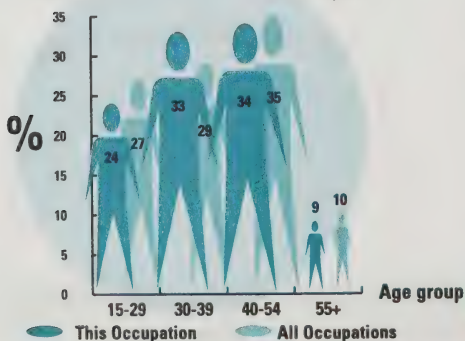
Education, Training & Experience

- People in this occupation must have a high school diploma. Most recent entrants have a trade/vocational certificate or a community college diploma.
- Drafting and design technologists usually complete a two- to three-year college or technical school program in engineering design and drafting technology or in a related field.
- Drafting technicians usually complete a one- to two-year college program in drafting or four years' apprenticeship training in drafting, or have a combination of four to five years' related work experience and college or industry courses in drafting.
- If they wish, draftspersons may obtain certificates of qualification from provincial apprenticeship authorities.
- Some employers require drafting technologists and technicians to obtain certification in engineering design and drafting technology, or in a related field, through provincial associations. This certification requires a period of supervised work experience, usually two years.
- With additional education or experience, they may specialize in civil, mechanical, electrical or other engineering design technologies.

Type of Employment



Distribution by Age



*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

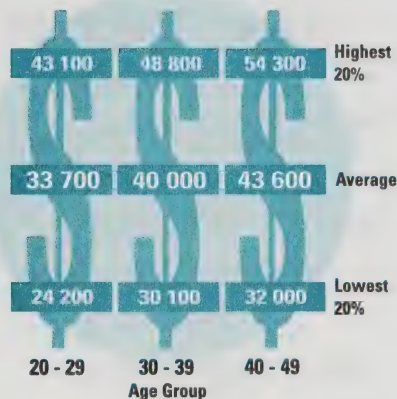
In These Occupations...

- 33,000 people were employed in 1998, a decrease of 6.3% from 1988. However, after declining 10.2% over the 1988 to 1993 period, employment increased 4.4% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five years.
- 5% work part-time, well below the average of 19% for all occupations.
- 14% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 19% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4.3% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations but are comparable to those for other occupations in the natural and applied sciences sectors.
- employment changes tend to mirror movements in overall economic activity.

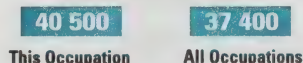
National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair" as a result of long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Rapid diffusion of computer-aided design technology will increase skill requirements in this occupation.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the professional services and non-electrical machinery industries.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

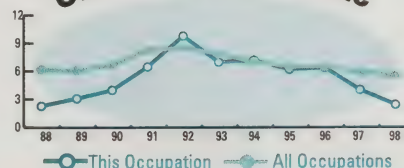
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



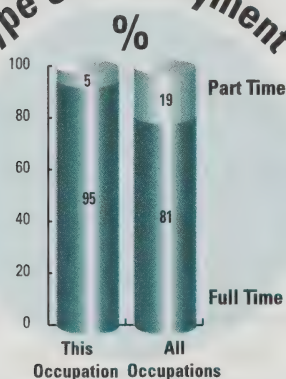
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Other Technical Inspectors and Regulatory Officers

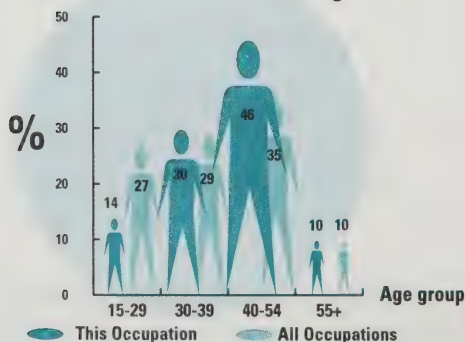
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in government; architectural and civil engineering consulting firms; construction, manufacturing, processing, transportation and energy companies; and industrial inspection companies.

- Non-destructive testers and inspectors operate ultrasonic, liquid penetrant, magnetic particle and other testing equipment to detect defects in objects of different compositions and materials.
- Engineering inspectors and regulatory officers inspect aircraft, boats, ships, cars and trucks, weighing and measuring devices, industrial instruments, processes and equipment.
- Inspectors in public health, environmental health and occupational health and safety inspect restaurants, plants, hotels, water systems and workplaces.
- Construction inspectors inspect the construction and maintenance of buildings, bridges, highways and industrial construction.

Education, Training & Experience

- People in this group usually require certification. Most recent entrants have a high school or community college diploma.
- Non-destructive testers and inspectors require a high school diploma and completion of two years of a college or university engineering program.
- Engineering inspectors and regulatory officers need a college diploma or university degree in an appropriate field, or trade qualifications and extensive experience.
- Inspectors in public, environmental and occupational health and safety usually require a college diploma or university degree in food science, environmental studies, chemistry, health and safety or a related discipline.
- Construction inspectors must have a college diploma in construction, civil engineering or architectural technology plus several years' experience, or several years' experience as a qualified tradesperson.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

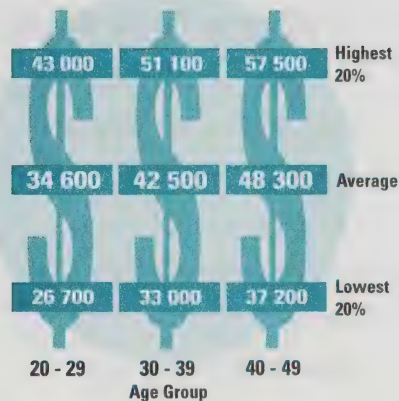
In These Occupations...

- 26,000 people were employed in 1998, an increase of 26.7% from 1988. However, after rising 31.5% over the 1988 to 1993 period, employment decreased 3.7% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 39% are inspectors in public and environmental health and occupational health and safety and 33% are construction inspectors.
- 5% work part-time, well below the average of 19% for all occupations.
- 7% are self-employed, well below the average of 17% for all occupations.
- 18% are women, well below the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 5.3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the natural and applied sciences sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and are comparable to those for other occupations in the natural and applied sciences sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average, although earnings are well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Government spending decisions and an emphasis on industry self-regulation in environmental and public health areas may have an impact on these occupations.
- Employment requirements for these occupations are expected to increase across a broad range of industries through 2004.

Earnings



Overall Average for All Ages (15+)

43 100	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

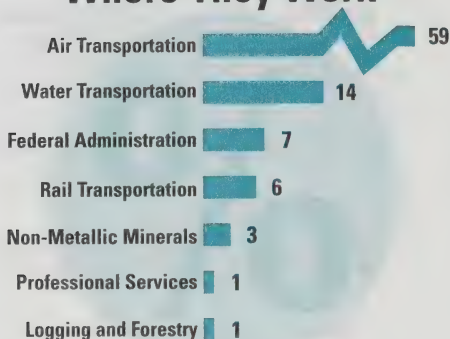
Unemployment Rate



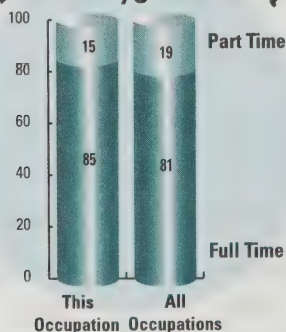
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Transportation Officers and Controllers

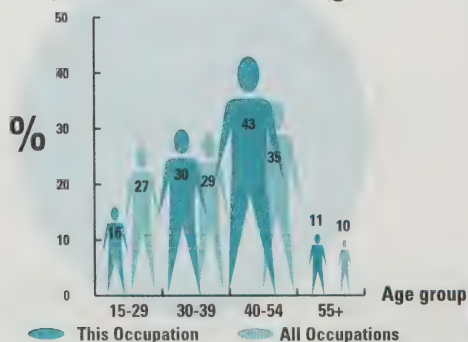
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for port, canal and other marine authorities and in airline, air freight and air service companies; flying schools; the Canadian Forces; the Canadian Coast Guard; and rail and marine transportation companies.

- Air pilots fly aircraft, including helicopters.
- Flight engineers monitor aircraft functions and may assist in flying aircraft.
- Flying instructors teach flying techniques and ground school subjects to student pilots, and train licensed pilots for additional certification.
- Air traffic controllers direct traffic at airports and in controlled airspace.
- Flight dispatchers authorize flights over assigned routes.
- Deck officers operate ships and other vessels and supervise deck crew activities.
- Engineer officers operate and maintain vessels' main engines and equipment and supervise engine room crew activities.
- Railway traffic controllers operate centralized traffic control systems.
- Marine traffic controllers regulate marine traffic using radar, remote radio systems and other telecommunications equipment.

Education, Training & Experience

- People in this group usually must have a high school diploma and specialized training in their area of transportation. Many recent entrants have a community college diploma.
- They may require certification or special licences such as pilot's, air traffic control and radio licences.
- They may require training, special certificates and endorsements from Transport Canada.
- Transportation officers and controllers who work on ships and other vessels must usually complete a cadet program at a nautical or marine training institute or have several years' experience.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

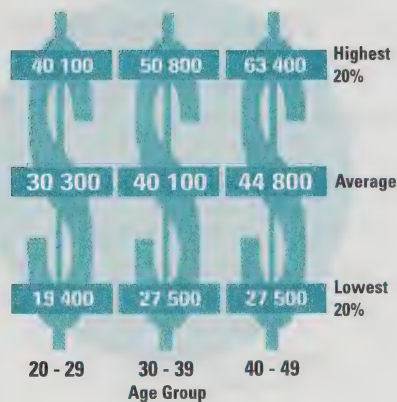
In These Occupations...

- 26,000 people were employed in 1998, an increase of 7.0% from 1988. After employment gains of 4.6% from 1988 to 1993, employment growth slowed to 2.3% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 46% are air pilots, flight engineers and flying instructors; 19% are deck officers or engineering officers in water transport; and 18% are air traffic controllers.
- 15% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the last ten years.
- 5% are self-employed, well below the average of 17% for all occupations.
- 8% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4.3% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and are comparable to those for other occupations in the natural and applied sciences sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are above average and earnings are well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The privatization of the air navigation system will transform the working conditions of air traffic controllers. Continued fierce competition in the airline industry may affect the demand for pilots.
- Employment requirements for these occupations are expected to increase through 2004 in a range of transportation industries.

Earnings



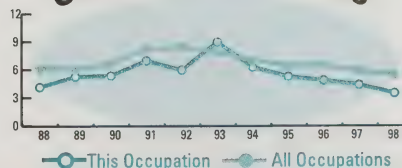
Overall Average for All Ages (15+)

46 100	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



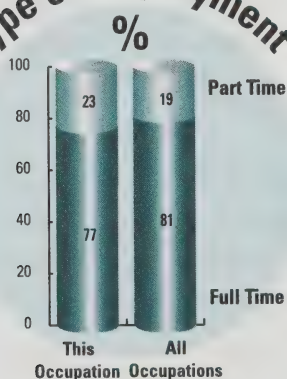
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Air Pilots, Flight Engineers and Flying Instructors

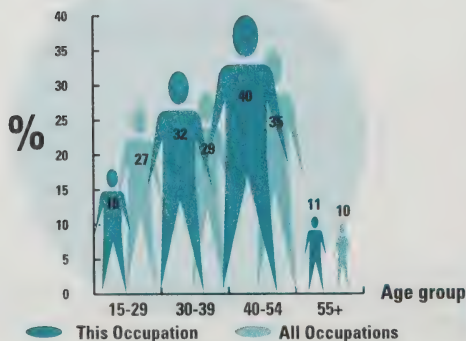
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupation work in airline and freight companies, flying schools and the Canadian Forces and for other public and private sector aircraft operators.

- Pilots fly fixed-wing aircraft and helicopters to transport passengers and freight and provide other services including search and rescue, aerial surveying and spraying and crop dusting. They may also test new aircraft.
- Flight engineers (second officers) monitor the engines, fuel consumption and functioning of aircraft systems during flight, and may assist in flying the aircraft.
- Flying instructors teach student pilots procedures and techniques of flying aircraft and ground-school subjects such as navigation, radio procedures and flying regulations.

Education, Training & Experience

- People in this occupation must complete high school, graduate from a certified flying or aviation school and have a commercial pilot's licence. Many recent entrants have a community college diploma.
- People in this occupation may require a university degree or college diploma.
- Pilots may need additional licences or endorsements to fly different types of aircraft.
- Some employers may provide structured training for pilots and flight engineers.
- Flight instructors require Transport Canada ratings and endorsements to provide instruction on different types of aircraft.

In These Occupations...

- 12,000 people were employed in 1998, an increase of 14.0% from 1988. After employment gains of 12.9% from 1988 to 1993, employment growth slowed to 1.0% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 23% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in this occupation has increased significantly over the last ten years.
- 7% are self-employed, well below the average of 17% for all occupations.

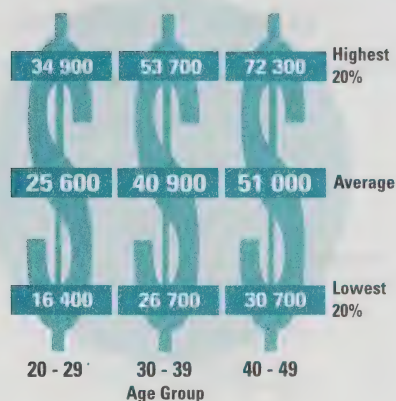
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 4% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and are comparable to those for other occupations in the natural and applied sciences sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities are above average and earnings are well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Continued restructuring and increased competition in the air industry may affect the demand for pilots. Most new job openings may be in lower paid jobs with regional carriers.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the air transportation industry.

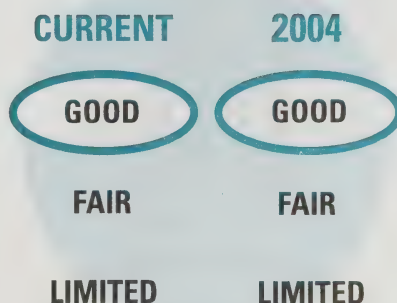
Earnings



Overall Average for All Ages (15+)

50 800	37 400
This Occupation	All Occupations

Work Prospects



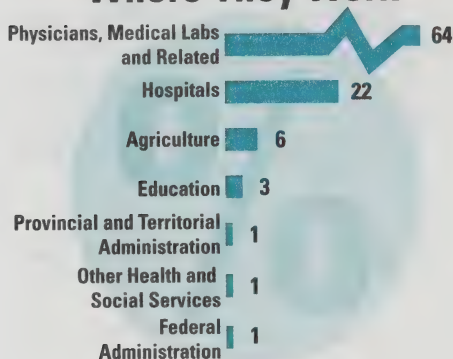
Unemployment Rate



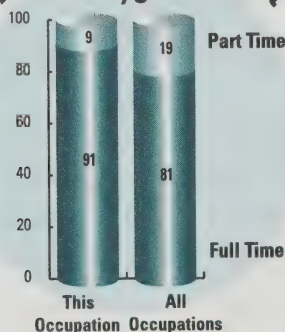
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Physicians, Dentists and Veterinarians

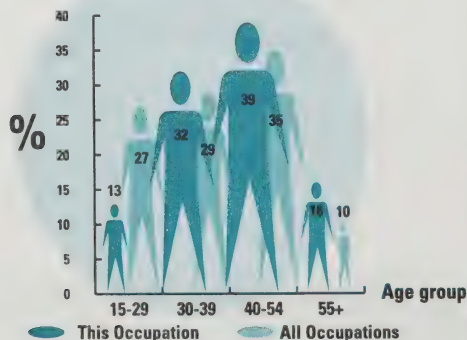
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in government, hospitals, clinics and other health care institutions, public health facilities, universities, laboratories and animal clinics. Many work in private practice.

- Specialists in clinical medicine treat patients' diseases and physiological and psychiatric disorders and act as consultants to other physicians.
- Specialists in surgery perform and supervise surgical procedures.
- Specialists in laboratory medicine conduct laboratory tests to diagnose diseases and study the nature, cause and development of diseases.
- General practitioners and family physicians diagnose and treat patients, perform and assist at routine surgery and refer patients to specialists when necessary.
- Dentists diagnose and treat teeth and mouth disorders, design bridgework and fit dentures and other appliances. They may specialize in such areas as dental surgery and orthodontics.
- Veterinarians diagnose and treat diseases and disorders in animals, perform surgery, carry out preventive medicine, and advise on the feeding, hygiene and general care of animals. They also act to ensure food safety for consumers.

Education, Training & Experience

- People in this group need a college or university program in science and post-graduate training.
- Physicians must complete a university undergraduate degree and then complete a Doctor of Medicine degree. In addition, they require post-graduate residency training (fieldwork/practical training) and certification in either family medicine or one of the specialty categories.
- Veterinarians usually need two to four years of pre-veterinary college or university, a four-year university degree in veterinary science and national certification. In Quebec, they must be members of the Ordre des médecins vétérinaires du Québec.

In These Occupations...

- 85,000 people were employed in 1998, an increase of 29.4% from 1988. After employment gains of 17.2% from 1988 to

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

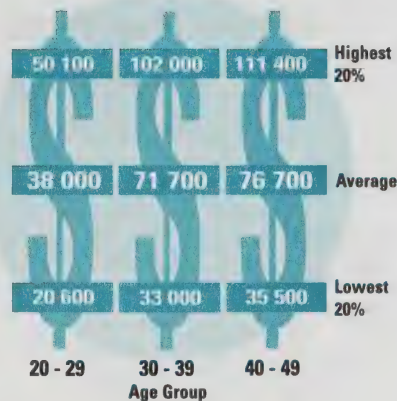
1993, employment growth slowed to 10.4% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

- 47% are general practitioners; 27% are specialist physicians; 19% are dentists; and 7% are veterinarians.
- 9% work part-time, compared to an average of 19% for all occupations.
- 69% are self-employed, well above the average of 17% for all occupations.
- 32% are women, well below the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 0.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for professional occupations and for occupations in the health sector.
- the average earnings are among the highest for professional occupations and for occupations in the health sector.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- An aging population is likely to increase demand for medical services. However, governments' efforts to restrain health care costs may limit the growth of physicians' income.
- The aging of the population will increase demand for restorative dental work; better dental hygiene will mean more people keep their teeth longer, increasing the need for dental maintenance work.
- Changes in agriculture due to the changing requirements of world and domestic markets, environmental concerns and trends to ownership of traditional and non-traditional pets will all affect the work of veterinarians.
- Almost all of the increase in employment requirements through 2004 for these occupations is expected to occur in private health practices.

Earnings



Overall Average for All Ages (15+)

76 800	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

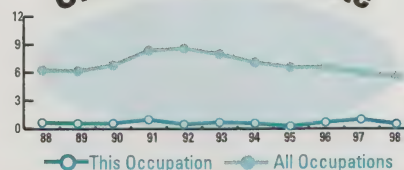
FAIR

FAIR

LIMITED

LIMITED

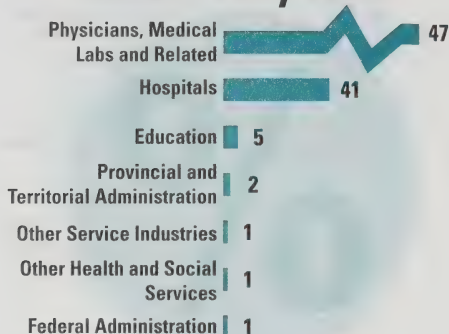
Unemployment Rate



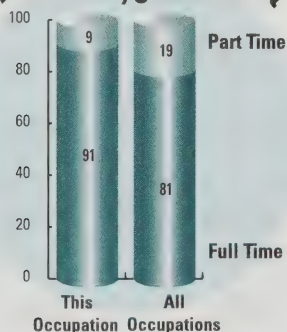
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Specialist Physicians

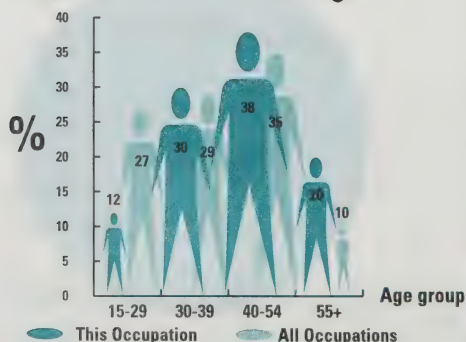
Where They Work



Type of Employment



Distribution by Age



At Work

Specialist physicians work in private practice or hospitals.

- Specialists in clinical medicine diagnose and treat diseases and physiological or psychiatric disorders.
- Specialists in laboratory medicine study the nature, cause and development of human diseases.
- Specialists in surgery perform and supervise surgical procedures to correct physical abnormalities and deficiencies and repair injuries.

This occupation also includes anesthetists, cardiologists, rheumatologists, medical biochemists, neuropathologists, obstetricians, ophthalmologists and thoracic surgeons.

Education, Training & Experience

- Specialist physicians must complete a university undergraduate degree or, in Quebec, a college program in health science and one year of pre-medicine university studies; graduate from an approved medical school; acquire training in their specialty; complete the qualifying examination of the Royal College of Physicians and Surgeons of Canada; and be licensed by a provincial or territorial licensing authority.
- Specialists must also have completed an additional period of supervised fieldwork/practical training (residency program). Depending on the specialty, some specialist physicians must have completed a longer residency program than others. The minimum residency program duration is four years; it must be taken at a designated teaching hospital recognized by the Royal College of Physicians and Surgeons of Canada.

In These Occupations...

- 23,000 people were employed in 1998, an increase of 28.3% from 1988. After employment gains of 16.8% from 1988 to 1993, employment growth slowed to 9.8% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 9% work part-time, well below the average of 19% for all occupations.
- 58% are self-employed, well above the average of 17% for all occupations.
- 31% are women, well below the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.

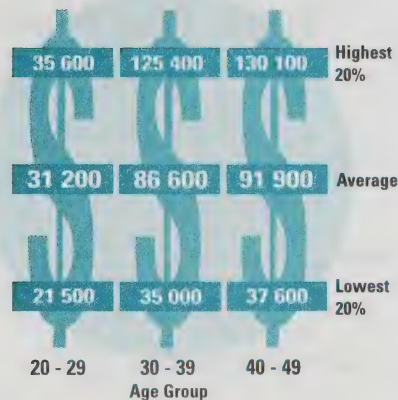
**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

- the unemployment rate averaged 0.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for professional occupations and for occupations in the health sector.
- the average earnings are among the highest for professional occupations and for occupations in the health sector.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Government funding restrictions may continue to limit openings for specialists. An aging population of specialists means that retirements and deaths will eventually create new openings, a trend which may be accelerated by retirement incentives offered by government.
- Technical progress in telecommunications may mean that specialists can provide services at a distance, perhaps in collaboration with general practitioners.
- Almost all of the increase in employment requirements through 2004 for this occupation is expected to occur in physicians' practices and hospitals.

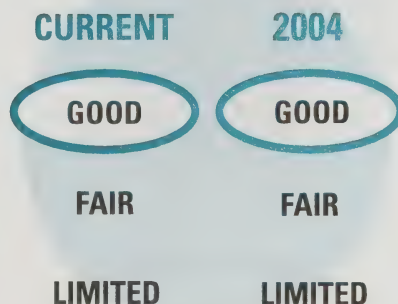
Earnings



Overall Average for All Ages (15+)

92 800	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

General Practitioners and Family Physicians

Where They Work



At Work

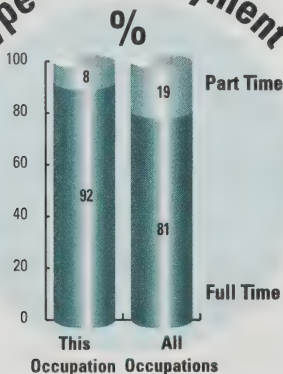
These physicians work in private practice, hospitals and clinics to diagnose and treat the diseases, physiological disorders and injuries of their patients. Their duties may require them to:

- evaluate their patients' health by examining patients; ordering laboratory tests, X-rays and other diagnostic procedures; and consulting with other medical practitioners;
- prescribe and administer medications and treatments and inoculate and vaccinate patients;
- advise patients on health care;
- perform and assist in routine surgery;
- deliver babies and provide prenatal and postnatal care; and
- report births, deaths and contagious diseases to government authorities.

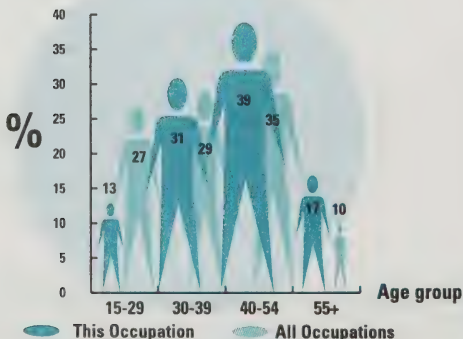
Education, Training & Experience

- These physicians must complete a university undergraduate degree and then complete a Doctor of Medicine degree at a recognized institution. In Quebec, physicians must complete a college program in health science and one year of pre-medicine university studies and must graduate from an approved medical school.
- They must complete a two-year residency program.
- They must complete the qualifying examinations of the Medical Council of Canada and be licensed by the provincial or territorial licensing authority.
- In Quebec, they must belong to the Ordre professionnel des médecins du Québec.
- With additional training, they may become specialist physicians.

Type of Employment



Distribution by Age



*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

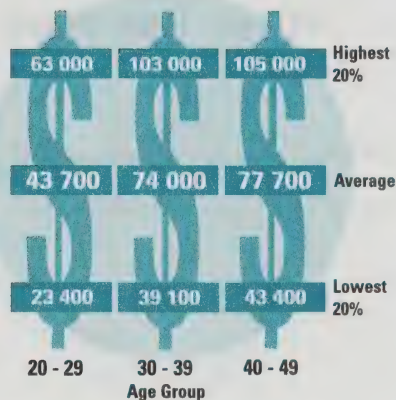
In These Occupations...

- 40,000 people were employed in 1998, an increase of 33.8% from 1988. After employment gains of 25.3% from 1988 to 1993, employment growth slowed to 6.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 8% work part-time, well below the average of 19% for all occupations.
- 73% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 33% are women, well below the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 0.4% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for professional occupations and for occupations in the health sector.
- the average earnings are among the highest for professional occupations and for occupations in the health sector.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Restructuring of health care may limit opportunities for general practitioners, especially if the use of nurse practitioners becomes widespread. New general practitioners may be more likely to work in group practices and clinics than in individual practices.
- Almost all of the increase in employment requirements through 2004 for this occupation is expected to occur in physicians' practices and hospitals.

Earnings



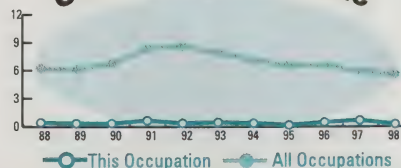
Overall Average for All Ages (15+)

78 100	37 400
This Occupation	All Occupations

Work Prospects

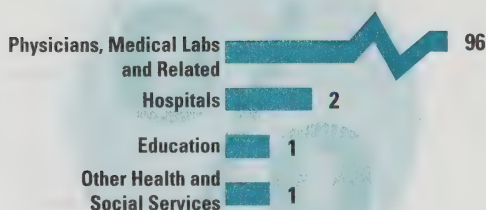


Unemployment Rate

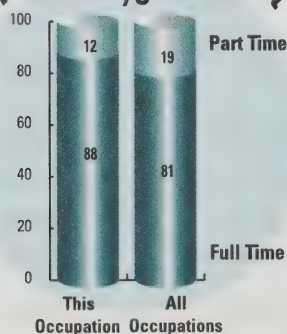


Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

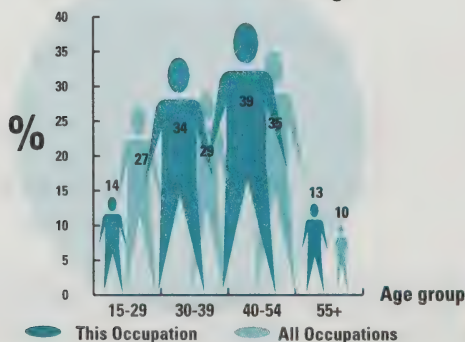
Where They Work



Type of Employment



Distribution by Age



At Work

Dentists may work in private practice or in hospitals, clinics, public health facilities and universities. They may specialize in areas such as oral surgery, pediatric dentistry and public health dentistry. Their duties may require them to:

- examine patients' teeth, gums and surrounding tissue to diagnose disease, injury and decay;
- restore, extract and replace diseased and decayed teeth and perform oral surgery, periodontal surgery and other treatments;
- clean teeth and instruct patients on oral hygiene; and
- design bridgework, fit dentures and provide appliances to correct abnormal positioning of the teeth and jaws.

This occupation also includes oral pathologists, oral radiologists, oral surgeons, orthodontists and prosthodontists.

Education, Training & Experience

- People in this occupation must complete one to four years' pre-dental university studies or, in Quebec, a college program in science and must hold a university degree from a recognized dental program. They must be licensed by a provincial or territorial governing body. Most recent entrants have a post-graduate university degree.
- Dentists in general practice may become specialists through advanced training. Specialists require an additional licence for their area of specialization.
- Dentists certified by the National Dental Examining Board of Canada may practise in any province and territory in Canada provided that they also meet the provincial and territorial requirements for licensing.
- In Quebec, they must belong to the Ordre des dentistes du Québec.

**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

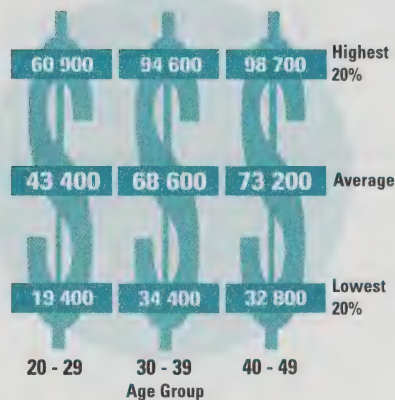
In These Occupations...

- 17,000 people were employed in 1998, an increase of 15.5% from 1988. Most of the growth occurred from 1993 to 1998, when employment increased 13.6%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 12% work part-time, compared to an average of 19% for all occupations.
- 82% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 24% are women, well below the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 0.2% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for professional occupations and for occupations in the health sector.
- the average earnings are among the highest for professional occupations and for occupations in the health sector.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The aging of the population will increase demand for restorative dental work; better dental hygiene will mean more people keep their teeth longer, increasing the need for dental maintenance work. Better dental hygiene will also mean that people have fewer cavities on average during their lifetime, decreasing work in this area. More opportunities may exist in rural areas, as some urban centers have become saturated in recent years.
- All of the increase in employment requirements through 2004 for this occupation is expected to occur in dentists' practices.

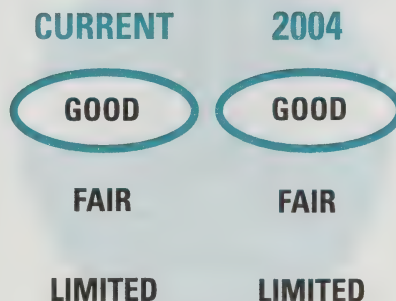
Earnings



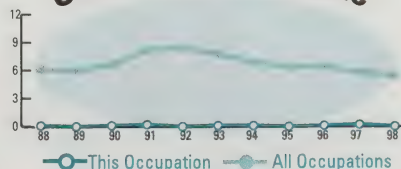
Overall Average for All Ages (15+)

70 800	37 400
This Occupation	All Occupations

Work Prospects



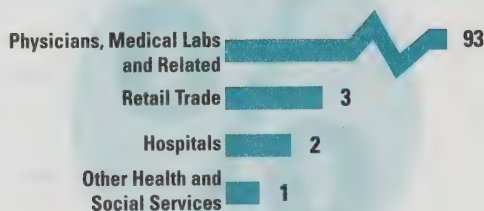
Unemployment Rate



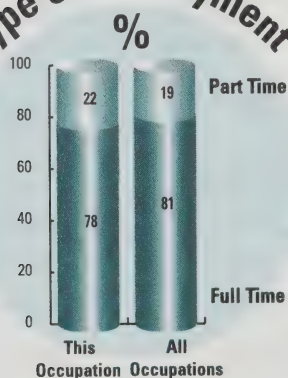
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Optometrists, Chiropractors and Other Health Diagnosing and Treating Professionals

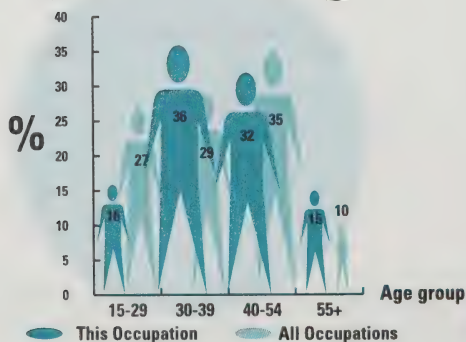
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in clinics, community health centres and hospitals; in private practice; and as consultants in the private sector.

- Optometrists examine, diagnose, treat, manage and prevent diseases and disorders of the eye, and prescribe and dispense eyeglasses and contact lenses.
- Chiropractors diagnose and treat disorders of the neuromusculoskeletal system with manipulation and other techniques and provide holistic health care.
- Osteopathic physicians diagnose, treat and prescribe for patients' medical, surgical and obstetrical problems. Their training includes an emphasis on the use of the musculoskeletal system in restoring health.

This occupational group also includes orthoptists, naturopaths, podiatrists and chiropodists.

Education, Training & Experience

- People in this group must complete a college or university program and may require provincial licensing and membership in professional associations. Most recent entrants have a post-graduate university degree.
- Optometrists require a three year college program with mathematics and science courses and a four-year university degree in optometry, and must pass the Canadian Standard Assessment in optometry and provincial exams.
- Chiropractors must complete three years' university science studies, obtain a degree from an accredited chiropractic college and pass the Canadian Chiropractic Examining Board and provincial exams.
- Orthoptists require two years' education after high school in a science specialization, two years' hospital-based training and supervised practical training.
- Osteopathic physicians require a university degree, a four-year osteopathic medicine program and two to five years of post-graduate training.

In These Occupations...

- 11,000 people were employed in 1998, an increase of 17.1% from 1988. After declining 4.1% over the 1988 to 1993 period, employment increased 22.1% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

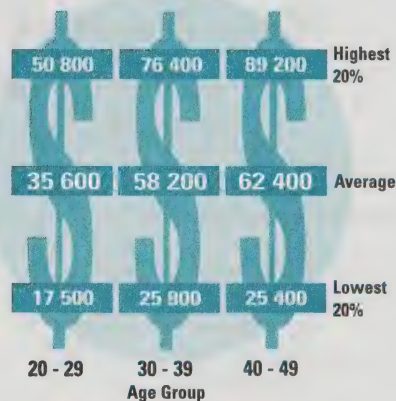
**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

- 43% are chiropractors and 41% are optometrists.
- 22% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the last ten years.
- 81% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 38% are women, compared to an average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 1.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for professional occupations and for occupations in the health sector.
- the average earnings are among the highest for professional occupations and for occupations in the health sector.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both at well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The rising average age of the Canadian population will result in the need for more health services in these areas, increasing labour demand in these occupations.
- People in these occupations should not be much affected by public sector decisions to curb health care costs, as most of them work in private practice in areas not covered by provincial health care plans. The rapid development of new diagnosing and treating technologies means that people in these occupations must continually update their skills.
- Almost all of the increase in employment requirements through 2004 for these occupations is expected to occur in private health practices.

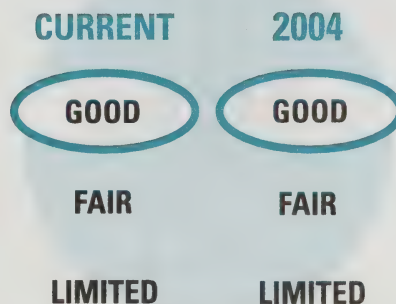
Earnings



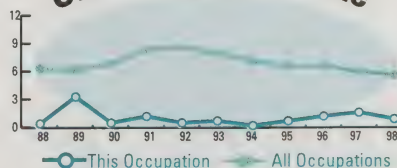
Overall Average for All Ages (15+)

60 900	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



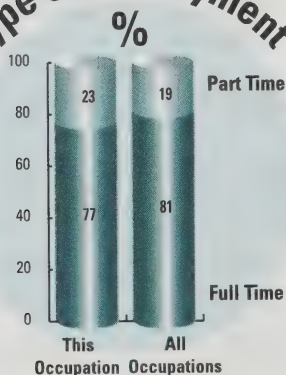
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Pharmacists, Dietitians and Nutritionists

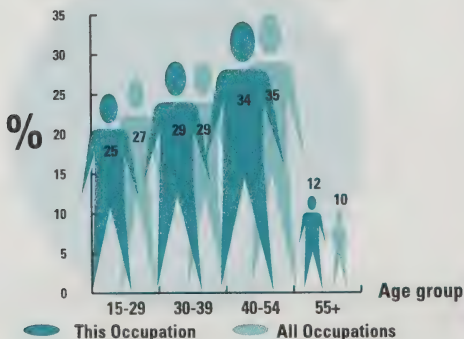
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in government, pharmacies, hospitals and other health care institutions, pharmaceutical manufacturing establishments, industry and educational institutions.

- Community and hospital pharmacists prepare and dispense prescribed drugs and other medicines, advise on the use of drugs and medications, and maintain records of customers' medications.
- Industrial pharmacists participate in the research, development, testing and manufacture of pharmaceutical products. They also develop information material on the use and properties of particular drugs, and evaluate the labelling, packaging and advertising of drug products.
- Dietitians and nutritionists plan, conduct and supervise diet food service programs and provide nutrition counselling and consulting services. They also conduct research to improve the nutritional value, taste, appearance and preparation of food, and may specialize in different areas such as clinical, community or research dietetics, public health, food service administration or industry.

This occupational group also includes clinical pharmacists and people working in dietetics and nutrition such as clinical and community dietitians, nutrition and dietetics researchers and public health nutritionists.

Education, Training & Experience

- People in this field of work need a university degree. Most recent entrants have an undergraduate university degree.
- Pharmacists must have a bachelor's degree in pharmacy.
- Dietitians and nutritionists require a bachelor's or master's degree in dietetics, nutrition or a closely related field, one to two years' supervised training and registration with the provincial regulatory body.

In These Occupations...

- 29,000 people were employed in 1998, an increase of 20.6% from 1988. After employment gains of 17.4% from 1988 to 1993, employment growth slowed to 2.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 76% are pharmacists and 24% are dietitians and nutritionists.

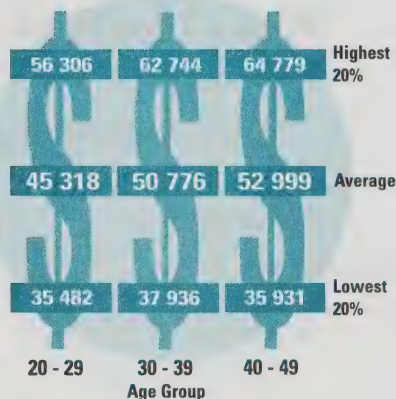
**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

- 23% work part-time, compared to an average of 19% for all occupations.
- 17% are self-employed, equal to the average for all occupations.
- 66% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 1.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for professional occupations.
- the average earnings are comparable to those for other professional occupations and for other occupations in the health sector.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are well above average and earnings are above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- As the Canadian population grows older, demand for drugs and for health care of all kinds will grow, increasing labour demand in these occupations. The increase in labour demand may be offset by government initiatives to restrict health care costs, in particular, the cost of prescription drugs.
- Dietitians and nutritionists may find their best opportunities in the private sector - for example, in senior citizens' homes.
- Almost all of the increase in employment requirements through 2004 for these occupations is expected to occur in the retail trade industry and in hospitals.

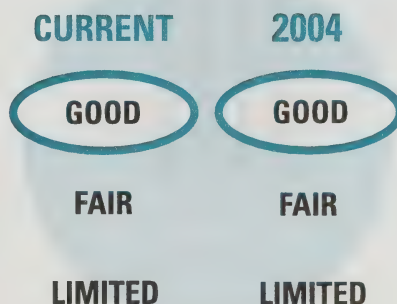
Earnings



Overall Average for All Ages (15+)

50 322	37 400
This Occupation	All Occupations

Work Prospects



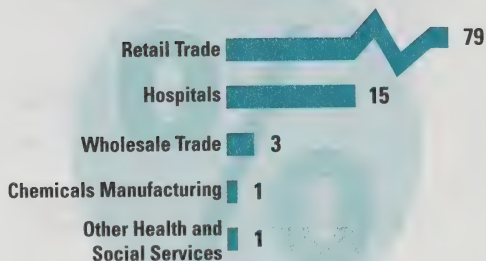
Unemployment Rate



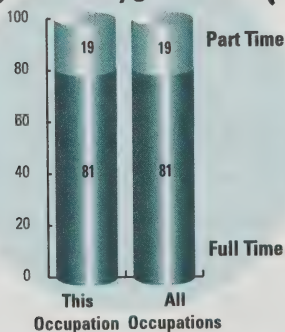
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Pharmacists

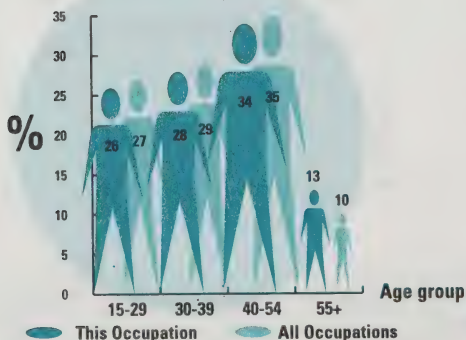
Where They Work



Type of Employment



Distribution by Age



At Work

Pharmacists work in community and hospital pharmacies, pharmaceutical firms, government departments and agencies and pharmacies and other retail organizations.

- Community, hospital and retail pharmacists compound and dispense prescribed drug products for customers and health care professionals. They advise on the administration, use and effects of medications and maintain medication profiles of customers.
- Industrial pharmacists participate in the research, development and manufacture of drug products. They test new drug products; co-ordinate clinical investigations of new drug products; control the quality of drug products during production to make sure that they meet standards of potency, purity, uniformity, stability and safety; and evaluate the labelling, packaging and advertising of drug products.

Education, Training & Experience

- Pharmacists must have a university degree in pharmacy. Most recent entrants have an undergraduate university degree.
- Community and hospital pharmacists require supervised practical training and licences in their province or territory.
- In Quebec, they must be members of the Ordre des pharmaciens du Québec.
- Managers of pharmacies or pharmacy departments must usually have experience as pharmacists.

In These Occupations...

- 22,000 people were employed in 1998, an increase of 43.0% from 1988. After employment gains of 16.8% from 1988 to 1993, employment grew 22.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 19% work part-time, equal to the average for all occupations.
- 13% are self-employed, compared to an average of 17% for all occupations.
- 56% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 1.3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for professional occupations.

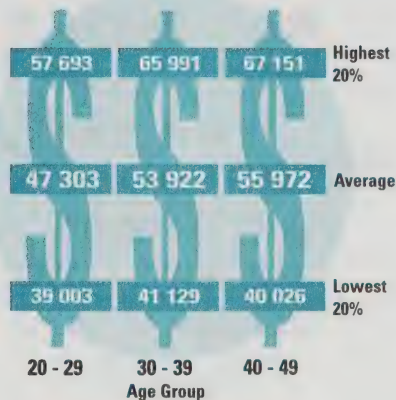
**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

- the average earnings are comparable to those for other professional occupations and for other occupations in the health sector.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- An aging population will increase demand for prescription drugs, favouring growth in the number of pharmacists. Restructuring in the health care sector may mean a loss of jobs in hospital pharmacies, however. Mail order pharmacies, discount chains and substitution of pharmaceutical assistants for pharmacists are other trends which may decrease the demand for pharmacists.
- The rapid development of new drugs for treatment and diagnosis means that pharmacists must update their knowledge continually. Use of computerized customer and pharmaceutical databases will require pharmacists to develop appropriate skills.
- Almost all of the increase in employment requirements through 2004 for this occupation is expected to occur in the retail trade industry and in hospitals.

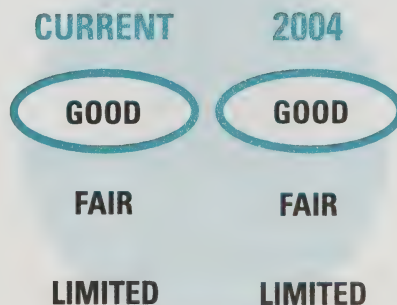
Earnings



Overall Average for All Ages (15+)

53 148	37 400
This Occupation	All Occupations

Work Prospects



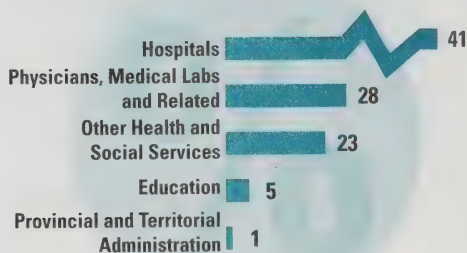
Unemployment Rate



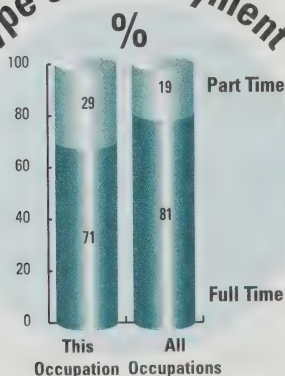
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Therapy and Assessment Professionals

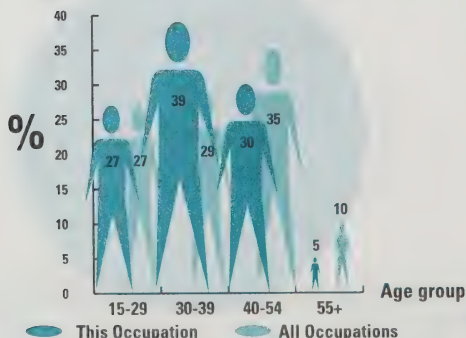
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in hospitals; educational, rehabilitation and other health care institutions; prisons; and recreational centres. They also work in private practice.

- Audiologists diagnose, evaluate and treat hearing disorders.
- Speech-language pathologists diagnose, evaluate and treat speech, language and voice disorders.
- Physiotherapists provide preventive, diagnostic and treatment services to restore or maintain function and to prevent disability or physical disfunction.
- Occupational therapists develop individualized activity programs with people affected by illness, injury, developmental disorders or problems with aging to restore or increase their ability to care for themselves and to engage in work, school and leisure.
- Art, dance, music, athletic and recreational therapists and remedial gymnasts plan and carry out specialized programs to aid in the treatment of mental and physical disabilities.

Education, Training & Experience

- People in these occupations usually require a college or university program in their area of work, a period of supervised training and credentials such as licences or memberships in professional associations. Most recent entrants have an undergraduate university degree.
- Audiologists and speech-language pathologists require a master's degree or equivalent in their area of work. They may require certification with their professional associations and licences in some provinces.
- Physiotherapists must have a university degree in physiotherapy. To practise, they must obtain provincial registration.
- Occupational therapists require a university degree from an accredited program in occupational therapy, which includes supervised field work. They must obtain provincial registration to practise.
- Art therapists need a graduate degree in art therapy.
- Dance therapists must have a bachelor's degree in psychology or dance/movement therapy or an approved graduate program in dance/movement therapy.
- Remedial gymnasts require an approved college program in remedial gymnastics.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

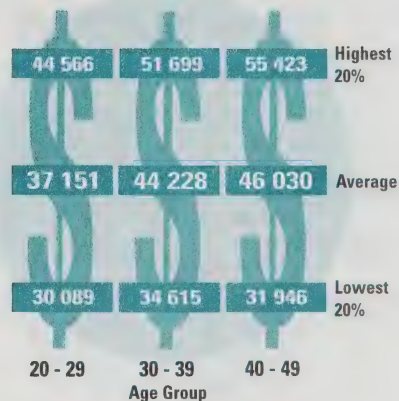
In These Occupations...

- 33,000 people were employed in 1998, an increase of 63.9% from 1988. After employment gains of 24.0% from 1988 to 1993, employment grew 32.1% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 47% are physiotherapists; 24% are occupational therapists; and 17% are audiologists and speech-language pathologists.
- 30% work part-time, well above the average of 19% for all occupations.
- 21% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 86% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 1.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for professional occupations.
- the average earnings are among the lowest for professional occupations but are comparable to those for other occupations in the health sector.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are well above average and earnings are below the average level for comparable occupations.
- Over the next five years, the outlook is expected to weaken to "Limited". A large influx of recent graduates looking for work in these occupations is expected to lead to rapid growth in the number of qualified job seekers. As a result, despite significant growth in employment opportunities, the number of job seekers is expected to exceed the number of job openings.
- Labour market prospects will vary among the different occupations in this group. According to the Canadian Association of Speech-Language Pathologists and Audiologists, current conditions in these occupations are good and will remain good through 2004.
- Restructuring of health care may mean that the best opportunities are in the private sector and with community-based organizations.
- Almost all of the increase in employment requirements through 2004 for these occupations is expected to occur in private health practices, hospitals and other health and social services.

Earnings



Overall Average for All Ages (15+)

43 019

37 400

This Occupation

All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

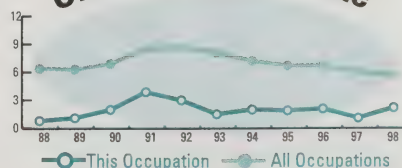
FAIR

FAIR

LIMITED

LIMITED

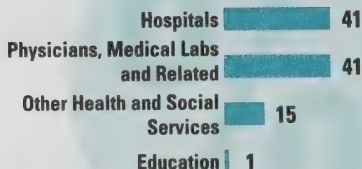
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Physiotherapists

Where They Work



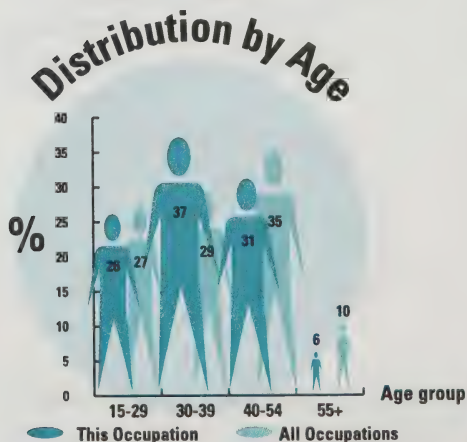
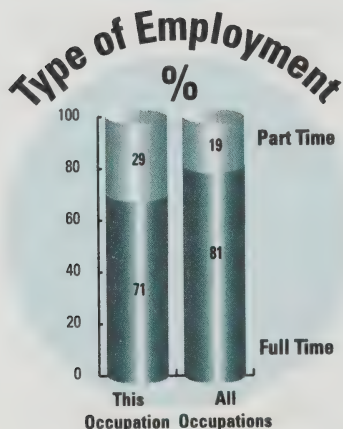
At Work

Physiotherapists work in hospitals, clinics, rehabilitation centres, extended care facilities and community health organizations; at work sites; and in clients' homes. Many physiotherapists work in private practice. Physiotherapists provide diagnostic and treatment services aimed at restoration or maintenance of function, and the prevention of disability or disfunction. They may focus on particular clinical areas such as neurology sciences, orthopedics, cardiorespiratory health or pediatrics or on the treatment of specific disorders or injuries such as sports injuries, burns or arthritis. Their duties may require them to:

- plan and implement individually designed programs of physical treatment to maintain, improve or restore patients' physical functions, alleviate pain and prevent physical problems;
- assess and test patients' physical abilities and evaluate their progress;
- include exercise, manipulations, massage, hydrotherapy and the use of electrotherapeutic and other mechanical equipment as part of their programs;
- maintain clinical and statistical records;
- confer with other health care professionals;
- develop and implement health promotion programs for patients, staff and the community; and
- act as physiotherapy consultants or educators.

Education, Training & Experience

- Physiotherapists must have a university degree in physiotherapy. Most recent entrants have an undergraduate university degree.
- To practise, they must be registered with provincial and territorial regulatory boards.



*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

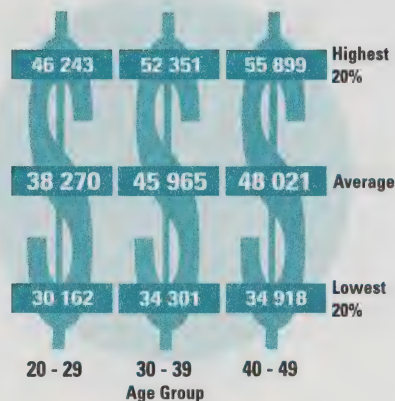
In These Occupations...

- 16,000 people were employed in 1998, an increase of 47.4% from 1988. After employment gains of 14.9% from 1988 to 1993, employment grew 28.4% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 29% work part-time, compared to an average of 19% for all occupations.
- 25% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 83% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 1.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for professional occupations and for occupations in the health sector.
- the average earnings are among the lowest for professional occupations but are comparable to those for other occupations in the health sector.

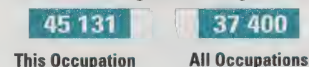
National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities are well above average and earnings are at the average level for comparable occupations.
- Over the next five years, the outlook is expected to weaken to "Fair". A large influx of recent graduates looking for work in this occupation is expected to lead to rapid growth in the number of qualified job seekers. As a result, despite significant growth in employment opportunities, the number of job seekers is expected to exceed the number of job openings.
- Health care reform is redefining how and where physiotherapy services are provided, with private practices becoming increasingly important. The increasing needs of an aging population will be met in part by non-traditional forms of delivery.
- Almost all of the increase in employment requirements through 2004 for this occupation is expected to occur in private health practices, hospitals and other health and social services.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

GOOD

FAIR

LIMITED

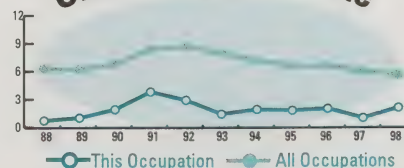
2004

GOOD

FAIR

LIMITED

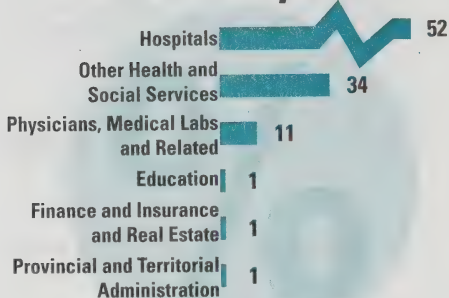
Unemployment Rate



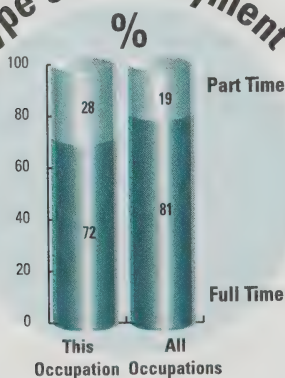
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Occupational Therapists

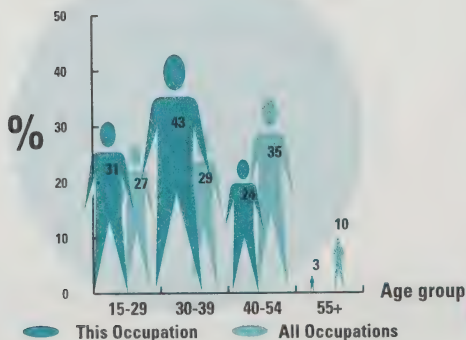
Where They Work



Type of Employment



Distribution by Age



At Work

Occupational therapists work in health care facilities, schools and private or public agencies or may be self-employed. They may specialize in working with a specific age group, such as children or elderly people, or with persons with distinct problems, such as dementia, traumatic brain injury or chronic pain, or may provide special programs such as return-to-work programs. Their duties may require them to:

- assess clients' capabilities to perform daily occupations through observation, interviews and standardized and informal assessments;
- develop intervention programs which address clients' performance in self-care, work and leisure activities;
- implement the intervention and evaluate its outcome;
- maintain client records;
- consult and advise on health risks in the workplace and on health promotion programs to prevent disability and to maximize function in all life activities;
- provide field-work education to student occupational therapists;
- conduct research in occupational therapy; and
- act as occupational therapy consultants or educators.

Education, Training & Experience

- Occupational therapists must hold an undergraduate or graduate university degree in occupational therapy from an accredited program. They must undergo a period of supervised practical training and pass a national certification examination. Most recent entrants have an undergraduate university degree.
- They must be registered with a provincial regulatory board. Some provinces may require a certification examination for registration.
- To specialize in a particular area, they may need additional training or further experience in that area.
- Occupational therapists have transferable skills, and management and administrative positions in the private and public health sectors are career options.

In These Occupations...

- 8,000 people were employed in 1998, an increase of 124.5% from 1988. This reflects an increase of 53.1% from 1988 to 1993 and 46.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

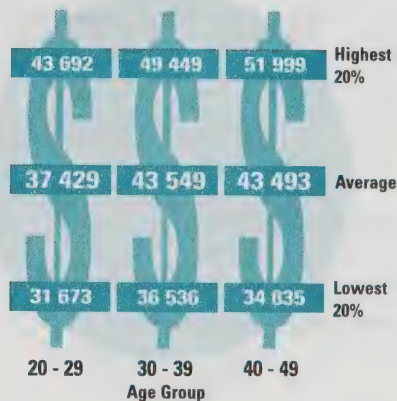
**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

- 28% work part-time, compared to an average of 19% for all occupations.
- 12% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 92% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 1.4% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for professional occupations.
- the average earnings are among the lowest for professional occupations but are comparable to those for other occupations in the health sector.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are well above average and earnings are well below the average level for comparable occupations.
- Over the next five years, the outlook is expected to weaken to "Limited". A large influx of recent graduates looking for work in this occupation is expected to lead to rapid growth in the number of qualified job seekers. As a result, despite significant growth in employment opportunities, the number of job seekers is expected to exceed the number of job openings.
- Job growth in this field may be favoured by increasing acceptance of home and community care as a preferred alternative to institutional care.
- A rising elderly population and growing attention to the needs of disabled persons will increase demand for occupational therapists. However, the increased use of rehabilitation aides and restructuring of health care budgets may have an offsetting effect.
- The best opportunities for occupational therapists may be in the private sector. There is a growing trend toward self-employment of occupational therapists as consultants to industry, the education sector and other third parties.
- Most of the increase in employment requirements for this occupation through 2004 is expected to occur in hospitals and other health and social services.

Earnings



Overall Average for All Ages (15+)

41 849	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



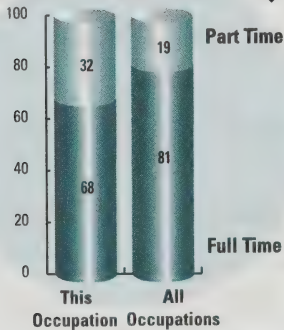
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Nursing Supervisors and Registered Nurses

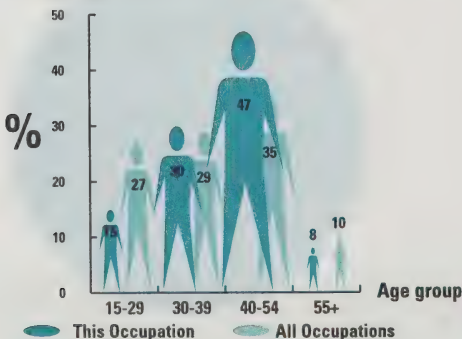
Where They Work



Type of Employment



Distribution by Age



At Work

These nurses work in government, hospitals and other health care institutions, nursing agencies, doctors' offices, companies and private homes.

- Head nurses and supervisors supervise and coordinate the activities of registered nurses and other nursing personnel.
- Registered nurses provide nursing care to patients and may specialize in surgery, neurology, emergency care, intensive care, obstetrics, gerontology or other areas of health care.
- Occupational health nurses develop and implement employee health education programs and provide nursing services in the workplace.
- Community health nurses provide health education and nursing care in public health units and through home visits.
- Psychiatric nurses provide nursing care to patients in psychiatric hospitals and mental health clinics.

This occupational group also includes nursing consultants and nursing researchers.

Education, Training & Experience

- These nurses (except registered psychiatric nurses) must complete a college or university registered nursing program. They must obtain provincial licences and may require membership in their professional associations. Most recent entrants have a community college diploma.
- Head nurses and supervisors need experience as registered nurses and may require a university degree or other studies in management or administration.
- To specialize, registered nurses must have additional academic training or experience. A master's or doctoral nursing degree is usually required for clinical nurse specialists, clinicians and consultants.
- Registered psychiatric nurses require completion of a college or other registered psychiatric nursing program.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

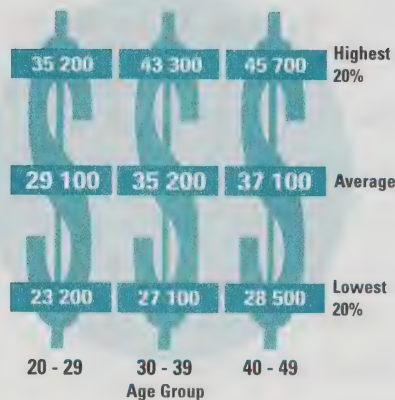
In These Occupations...

- 222,000 people were employed in 1998, an increase of 1.7% from 1988. However, after rising 6.9% over the 1988 to 1993 period, employment decreased 4.9% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 94% are registered nurses and the remainder are head nurses and supervisors.
- 33% work part-time, well above the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 94% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 1.4% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for professional occupations.
- the average earnings are among the lowest for professional occupations and for occupations in the health sector.

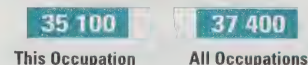
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are well above average, although earnings are at the average level for all occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Nurses' roles will change as new technology continues to be introduced at the bedside and as nurses are allowed to perform acts previously restricted to physicians.
- Restructuring of the health care system, including the shift from institutional to home care, will change the requirements for nurses and move much of their employment from publicly funded hospitals to community settings and the private sector. Consequently, the best employment opportunities for nurses may be in these sectors.
- Almost all of the increase in employment requirements in these occupations through 2004 is expected to occur in hospitals, other health and social services and physicians' and other private health practices.

Earnings



Overall Average for All Ages (15+)



Work Prospects



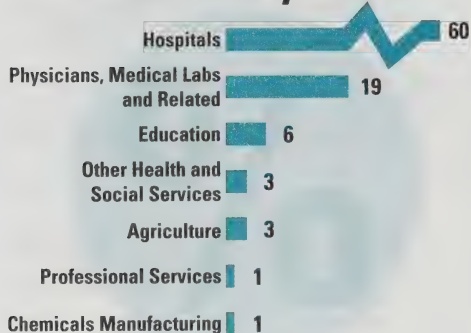
Unemployment Rate



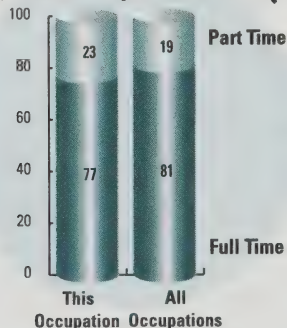
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Medical Technologists and Technicians (Except Dental)

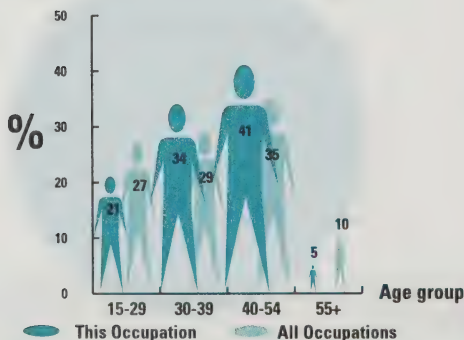
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in hospitals, clinics and other health care institutions; government and other research laboratories; radiological and medical laboratories; universities; respiratory home care services; medical devices manufacturing companies; and other organizations.

- Medical laboratory technologists conduct experiments and analyses of medical specimens and samples.
- Medical laboratory technicians conduct supervised routine tests and maintain medical laboratory equipment.
- Pathologists' assistants assist at autopsies and examinations of surgical specimens and perform autopsies under supervision.
- Respiratory and radiation therapists; medical sonographers and radiological technologists; and nuclear medicine, cardiology, electromyography and electroencephalographic technologists perform diagnostic tests, X-rays and treatments.
- Clinical perfusionists operate and monitor circulation and other technical devices during open-heart surgery.
- Dietary technicians assist food service professionals.
- Prosthetists and orthotists design, build, fit and repair artificial limbs, braces and other prosthetics and orthotics.
- Prosthetic and orthotic technicians assist prosthetists and orthotists.

Education, Training & Experience

- People in this group must have a high school diploma and specialized training. Most recent entrants have a community college diploma.
- Most need a college program and supervised practical or clinical training.
- Many require registration or certification with their professional associations.
- Some need a provincial or territorial licence in their field of work.

In These Occupations...

- 67,000 people were employed in 1998, an increase of 23.5% from 1988. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

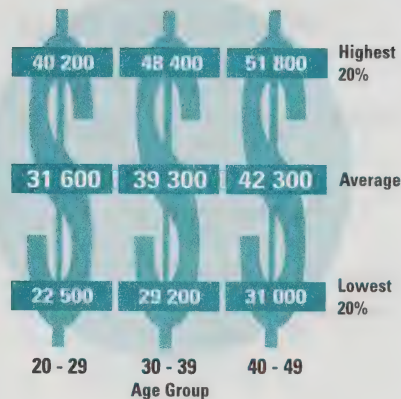
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 30% are medical laboratory technicians; 26% are medical laboratory technologists and pathologists' assistants; and 19% are medical radiation technologists.
- 23% work part-time, compared to an average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 81% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 2.0% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the health sector.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are well above average and earnings are at the average level.
- Over the next five years, this outlook is not expected to change, as the number of job openings, partly due to a high retirement rate, is expected to be matched by the number of qualified job seekers in these occupations.
- New areas of work such as DNA testing should increase the demand for medical technologists. However, automation of diagnostic and treatment procedures may have an offsetting effect. The rapid development of new medical technologies means that medical technologists must continually update their skills.
- The restructuring of the health care system may limit opportunities in some of these occupations. The impact will vary widely among the different occupations in this group.
- Most of the increase in employment requirements through 2004 in these occupations is expected to occur in hospitals and private health practices and medical laboratories.

Earnings



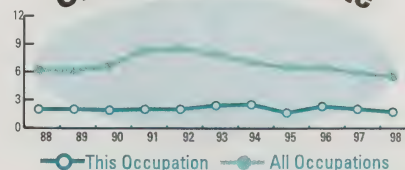
Overall Average for All Ages (15+)

39 000	37 400
This Occupation	All Occupations

Work Prospects



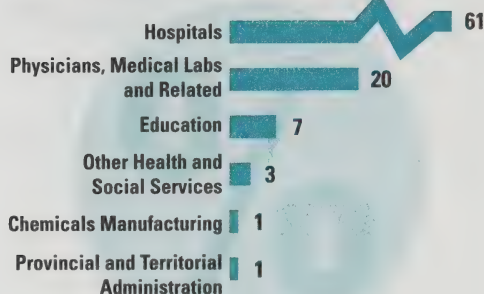
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Medical Laboratory Technologists and Pathologists' Assistants

Where They Work

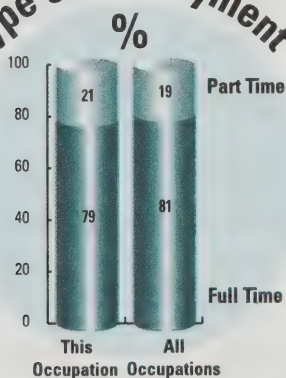


At Work

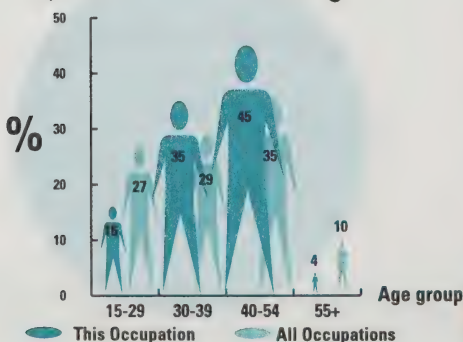
People in this occupation work in medical laboratories in hospitals, private clinics, research institutions and universities.

- Medical laboratory technologists conduct medical laboratory tests, experiments and analyses to assist in the diagnosis, treatment and prevention of disease. They may conduct chemical analyses of body fluids, study blood cells and other tissue, and prepare tissue sections for microscopic examinations.
- Medical laboratory technologists may specialize in areas such as clinical chemistry, clinical microbiology, transfusion science, hematology, histotechnology and cytotechnology.
- Pathologists' assistants assist at autopsies and examinations of surgical specimens, or perform autopsies under pathologists' supervision. They may dissect, weigh and photograph organs and specimens for chemical analysis and record findings.

Type of Employment



Distribution by Age



Education, Training & Experience

- People in this occupation must have a post-secondary qualification. Most recent entrants have an undergraduate university degree or a community college diploma.
- Medical laboratory technologists require either a bachelor of science or medical laboratory science degree or a two- to three-year college program in medical laboratory technology. They must also have a period of supervised training.
- Employers usually require that medical laboratory technologists be certified by the Canadian Society for Medical Laboratory Science.
- Medical laboratory technologists must be licensed by provincial regulatory bodies in New Brunswick, Quebec, Ontario, Saskatchewan and Alberta.
- Pathologists' assistants must have either a bachelor of science degree or training and experience as a registered nurse, registered nursing assistant or medical laboratory technologist. They must also have specialized on-the-job training.

In These Occupations...

- 17,000 people were employed in 1998, an increase of 31.5% from 1988. In comparison, employment in all occupations

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

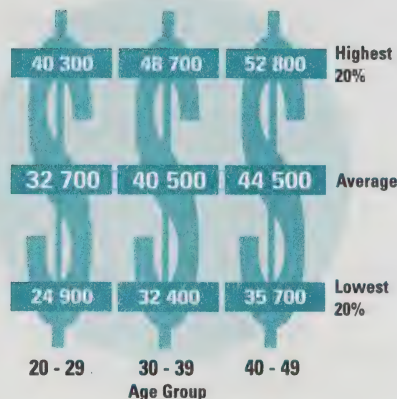
grew 12.3% over the same ten years. This growth can be divided into two distinct periods. In the late 1980's and early 1990's employment growth was relatively strong. However, since that time, employment has declined, primarily as a result of restructuring in the health care sector.

- 21% work part-time, compared to an average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 82% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 1.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations but are comparable to those for other occupations in the health sector.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities are well above average and earnings are above the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings for these workers, partly due to a high retirement rate, is expected to be matched by the number of qualified job seekers in this occupation.
- New areas of work such as DNA testing should increase the demand for medical technologists. However, automation of diagnostic and treatment procedures may have an offsetting effect. The rapid development of new medical technologies means that medical technologists must continually update their skills.
- The restructuring of the health care system may limit opportunities in this occupation. In particular, restructuring may lead to increased use of automated equipment and substitution of lower-paid technicians for medical technologists.
- Almost all of the increase in employment requirements through 2004 for this occupation is expected to occur in hospitals and private health practices and medical laboratories.

Earnings



Overall Average for All Ages (15+)

41 000	37 400
This Occupation	All Occupations

Work Prospects



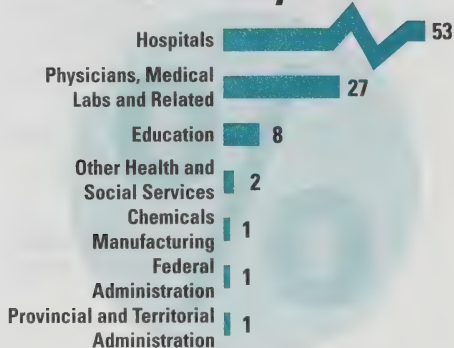
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Medical Laboratory Technicians

Where They Work



At Work

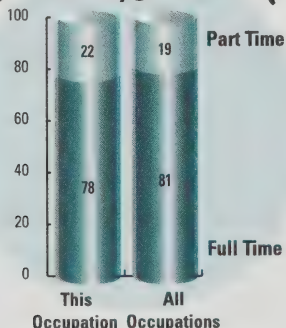
Medical laboratory technicians work in medical laboratories in hospitals, clinics, research institutes, universities and government research laboratories. Their duties may require them to:

- collect blood tissue and other samples from patients;
- log patient samples and prepare them for testing;
- set up medical laboratory equipment;
- conduct routine laboratory tests and sample analyses; and
- clean and maintain medical laboratory and medical laboratory equipment.

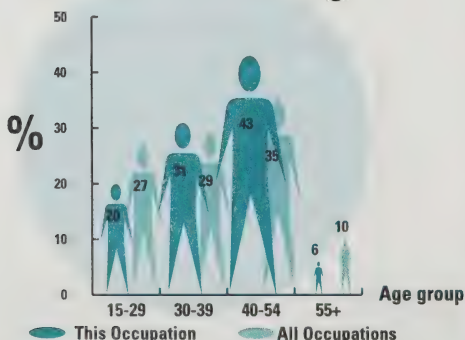
Education, Training & Experience

- Medical laboratory technicians must complete either high school and on-the-job training, or a one- to two-year college program in medical technology. Most recent entrants have a community college diploma or an undergraduate university degree.
- In Quebec, medical laboratory technicians must belong to the Ordre professionnel des technologistes médicaux du Québec.

Type of Employment



Distribution by Age



In These Occupations...

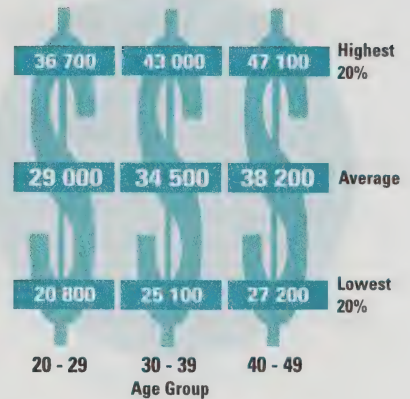
- 20,000 people were employed in 1998, an increase of 8.1% from 1988. However, after rising 19.4% over the 1988 to 1993 period, employment decreased 9.5% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 22% work part-time, compared to an average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 84% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 1.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, skilled and paraprofessional occupations.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations but are among the lowest for occupations in the health sector.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

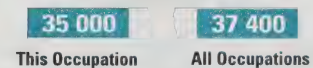
National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are above average and earnings are below the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Restructuring of the health care system may lead to substitution of persons in this occupation for higher paid technologists. The best opportunities for medical laboratory technicians may be in private sector clinics and laboratories.
- Almost all of the increase in employment requirements through 2004 for this occupation is expected to occur in private health practices and medical laboratories and in hospitals.

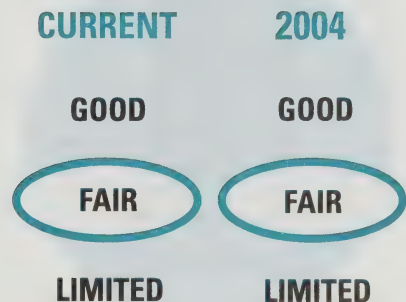
Earnings



Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Medical Radiation Technologists

Where They Work



At Work

People in this occupation work in hospitals, cancer treatment centres, clinics and radiological laboratories.

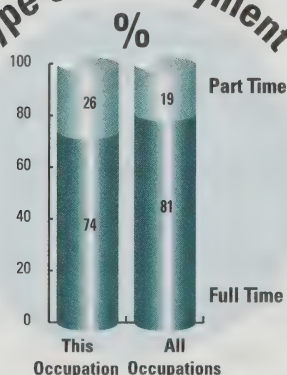
- Radiological technologists operate X-ray, radiographic and fluoroscopic equipment, specialized CT scanners and mammography units to produce images of the body for use by radiologists in the diagnosis of disease or injury.
- Nuclear medicine technologists operate radiation detection equipment such as gamma cameras, scanners, scintillation counters and ionization chambers to acquire information for use by nuclear medicine physicians in the diagnosis of disease.
- Radiation therapists operate linear accelerators, and cobalt-60, X-ray and other radiation therapy equipment to administer radiation treatment prescribed by radiation oncologists.

This occupation also includes mammography technologists, angiography technologists and magnetic resonance imaging technologists.

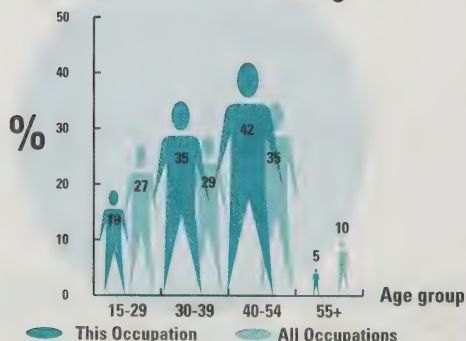
Education, Training & Experience

- Medical radiation technologists must complete a two- to three-year college, hospital-school or other approved program in their specialty: diagnostic radiography for radiological technologists, nuclear medicine technology for nuclear medicine technologists and radiation therapy for radiation therapists. Most recent entrants have a community college diploma.
- They must complete a period of supervised practical training.
- They must be certified by the Canadian Association of Medical Radiation Technologists or a provincial counterpart or an appropriate provincial governing body.
- In Quebec, medical radiation technologists must belong to the Ordre professionnel des technologues en radiologie du Québec.
- With experience, they may become supervisors, managers, commercial representatives and instructors.

Type of Employment



Distribution by Age



*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

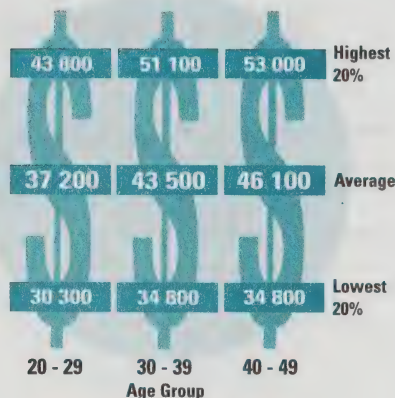
In These Occupations...

- 13,000 people were employed in 1998, an increase of 13.4% from 1988. Most of the growth occurred from 1993 to 1998, when employment increased 13.0%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 26% work part-time, compared to an average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 81% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 1.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations but are comparable to those for other occupations in the health sector.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Technological change, in particular the introduction of sophisticated imaging technologies, will create new skill requirements in this field. The effect on demand for these technologists will depend on the extent of government funding for these new technologies. With restructuring of the health care system, the best opportunities for medical radiation technologists may be in private sector clinics.
- Almost all of the increase in employment requirements through 2004 for this occupation is expected to occur in hospitals and in private health practices and medical laboratories.

Earnings



Overall Average for All Ages (15+)

43,600	37,400
This Occupation	All Occupations

Work Prospects

CURRENT	2004
GOOD	GOOD
FAIR	FAIR
LIMITED	LIMITED

Unemployment Rate



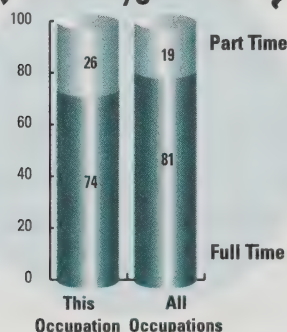
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Technical Occupations in Dental Health Care

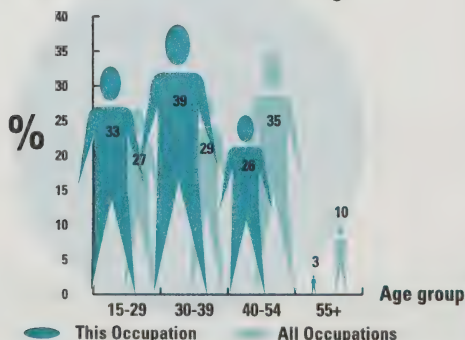
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in government, public health, community care, dentists' offices and other health practices, clinics, dental laboratories, denture clinics, private industry, educational institutions, hospitals, dental hygiene clinics and mobile services.

- Dental hygienists provide a process of dental care including assessment, preventive care, treatment and evaluation.
- Dental therapists working for government in rural and remote locations provide limited dental services including filling cavities and extracting teeth.
- Dental technicians prepare and fabricate full and partial dentures and devices such as bridges, clasps and bands according to prescriptions from dentists and dental therapists.
- Denturists examine patients, make impressions, design and construct dentures, and fit, modify and repair dentures.

This group also includes dental bench workers.

Education, Training & Experience

- People in this group must have a high school diploma and usually need a college or university program in their specialty.
- Some may require licensing in their province or territory. Most recent entrants have a community college diploma.
- Dental hygienists must complete a two- to three-year college or university program or other approved program and be licensed by their provincial or territorial regulatory authority.
- Dental technicians must complete a college program in dental technology or four or more years of on-the-job training with a dental technician. Licensing is available but not mandatory in all provinces. In Quebec, they must be members of the Ordre professionnel des techniciens et techniciennes dentaires du Québec.
- Denturists must complete a college program and may be required to complete an internship program. Licensing is mandatory.

In These Occupations...

- 17,000 people were employed in 1998, an increase of 29.1% from 1988. Most of the growth occurred from 1993 to 1998, when employment increased 19.2%. In comparison,

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

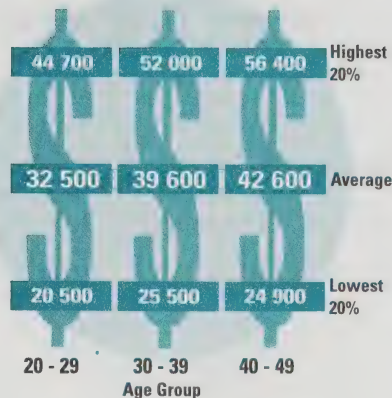
employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

- 61% are dental hygienists and dental therapists; 30% are dental technicians and laboratory bench workers; and 9% are denturists.
- 26% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the last ten years.
- 16% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has decreased significantly over the last ten years.
- 79% are women, well above the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 2.4% from 1996 to 1998, compared to the national average of 9.1%. This rate is among the lowest for technical, paraprofessional and skilled occupations.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the health sector.

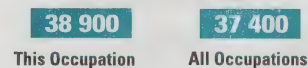
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are above average and earnings are at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- An aging population and increased attention to dental hygiene may increase opportunities in these occupations. With the adoption of new technologies in dentistry and dental hygiene, persons in these occupations will need to continue to upgrade their skills.
- Almost all of the increase in employment requirements through 2004 for these occupations is expected to occur in private health practices and medical laboratories.

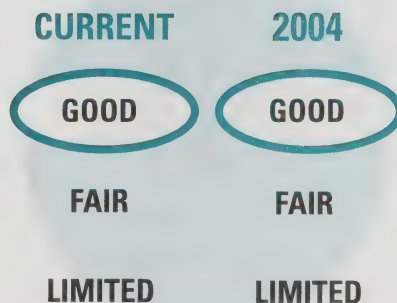
Earnings



Overall Average for All Ages (15+)



Work Prospects



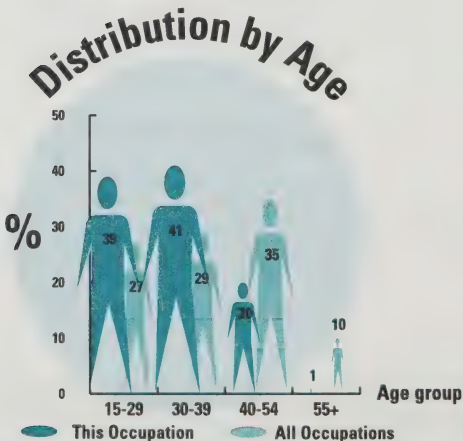
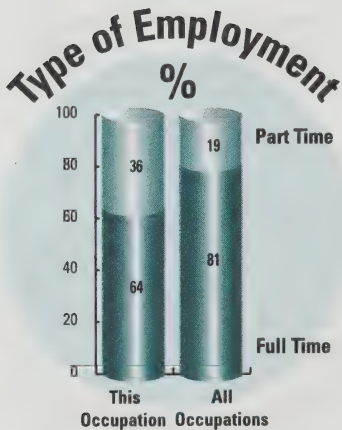
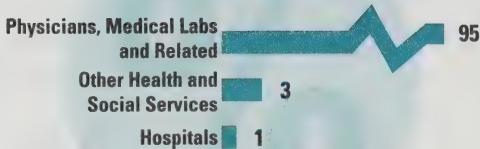
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Dental Hygienists and Dental Therapists

Where They Work



At Work

Dental hygienists work in dentists' offices, dental hygienists' offices (in some provinces), hospitals, clinics, educational institutions, government agencies and private industry.

- Dental therapists work for the federal government and the governments of Manitoba, Saskatchewan and the Northwest Territories to provide services in rural and remote communities.
- Dental hygienists provide dental hygiene assessment and treatment and information related to the prevention of diseases and disorders of the teeth and mouth. They may take dental impressions, remove stains and deposits from teeth, take X-rays, clean and stimulate the gums and apply fluoride treatment.
- Dental therapists carry out limited dental services related to the prevention and treatment of diseases and disorders of the teeth and mouth. They may remove stains and deposits from teeth, take dental impressions and X-rays, fill cavities, extract teeth and replace portions of tooth crowns.

Education, Training & Experience

- People in these occupations require specialized training following graduation from high school. Most recent entrants have a community college diploma.
- Dental hygienists must complete a one- to three-year college or university program or another approved program in dental hygiene recognized by the governing board within their province or territory. They must obtain the national Dental Hygienist certificate and be registered by their provincial or territorial governing body.
- In Quebec, dental hygienists must belong to the Ordre professionnel des hygiénistes dentaires du Québec.
- Dental therapists must complete the dental therapy program offered by Health Canada or an approved college program in dental therapy.
- Dental therapists must be licensed in Saskatchewan, Manitoba and the Northwest Territories.

In These Occupations...

- 10,000 people were employed in 1998, an increase of 46.3% from 1988. After employment gains of 15.0% from 1988 to 1993, employment grew 27.2% from 1993 to 1998. In

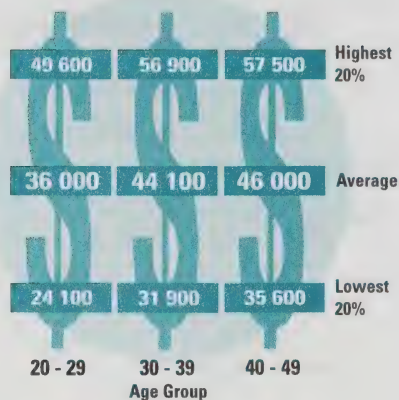
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 36% work part-time, well above the average of 19% for all occupations. The proportion of part-time workers in this occupation has increased significantly over the last ten years.

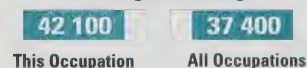
- 99% are women, well above the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.

- the unemployment rate averaged 2.3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations.

- the average earnings are among the highest for technical, paraprofessional and skilled occupations but are comparable to those for other occupations in the health sector.



Overall Average for All Ages (15+)



Work Prospects

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities are above average and earnings are above the average level for comparable occupations.

- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.

- An aging population and increased attention to dental hygiene may increase opportunities in these occupations. With the adoption of new technologies in dentistry and dental hygiene, people in these occupations will need to upgrade their skills to remain licensed.

- New legislation in several provinces will allow dental hygienists to open private practices.

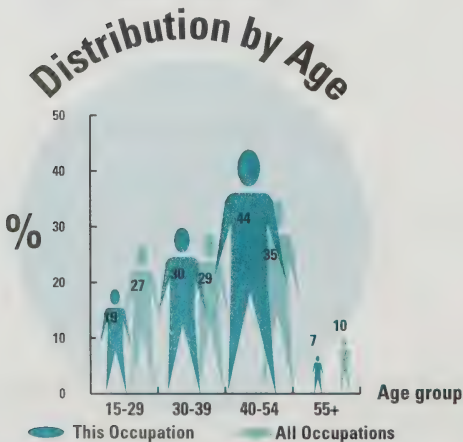
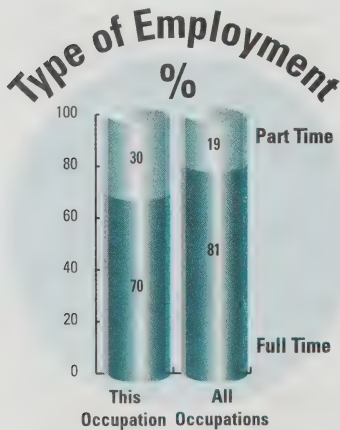
- Almost all of the increase in employment requirements through 2004 for this occupation is expected to occur in private health practices and medical laboratories.



165

Other Technical Occupations in Health Care (Except Dental)

Where They Work



At Work

People in this group work for optical retail stores and departments, hospitals and clinics, health clubs, spas, health food stores, health care institutions, ambulance services, fire departments, mining companies, government and private individuals.

- Opticians prepare or supervise the preparation of eyeglasses, contact lenses and low vision aids from prescriptions, and fit them on clients.
- Acupuncturists diagnose patients' physical problems and treat them with acupuncture needles and laser and electric stimulation.
- Chinese medical practitioners, herbalists, homeopaths, rollers and reflexologists employ herbs, finger pressure, manipulation and other natural healing techniques.
- Registered nursing assistants provide nursing care to patients under the direction of doctors and nurses.
- Operating room technicians clean and sterilize operating rooms and instruments.
- Ambulance attendants and paramedics provide emergency medical care and transport patients to medical facilities.
- Audio prosthetists, physical rehabilitation technicians, and audiometric, communication and ophthalmic assistants provide technical support in their area of work.
- Massage therapists do massage therapy.

Education, Training & Experience

- People in this group usually need a high school diploma and specialized training at college, university or private institutes in their specialty. Most recent entrants have a community college diploma.
- Most must have supervised practical training.
- Many require registration or certification with their professional associations.
- Some need provincial or territorial licences.
- Ambulance attendants, paramedics and emergency vehicle operators require an appropriate driver's licence.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

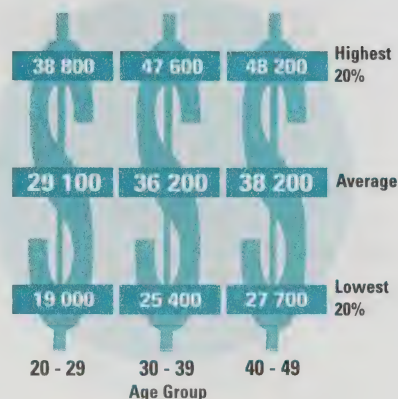
In These Occupations...

- 101,000 people were employed in 1998, an increase of 12.6% from 1988. After employment gains of 10.3% from 1988 to 1993, employment growth slowed to 2.1% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 55% are registered nursing assistants and 19% are ambulance attendants.
- 30% work part-time, well above the average of 19% for all occupations.
- 8% are self-employed, compared to an average of 17% for all occupations.
- 82% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 2.3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations but are among the lowest for occupations in the health sector.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are above average and earnings are below the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Restructuring of the health care system is likely to affect opportunities in all these occupations. The impact will vary widely among the different occupations in this group.
- Almost all of the increase in employment requirements through 2004 for these occupations is expected to occur in hospitals, other health and social services, private health practices and medical laboratories and personal and household services.

Earnings



Overall Average for All Ages (15+)

36 000	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



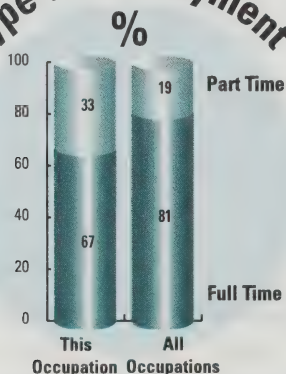
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Registered Nursing Assistants (Licensed/Registered Practical Nurses)

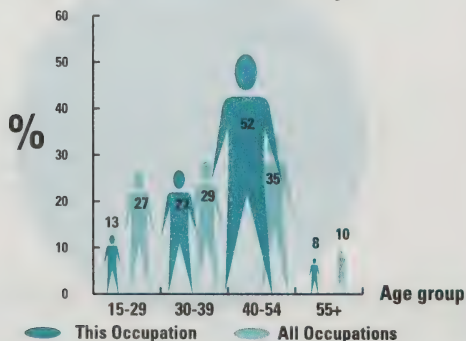
Where They Work



Type of Employment



Distribution by Age



At Work

Registered nursing assistants (or licensed/registered practical nurses) work in acute-care hospitals, extended-care facilities, rehabilitation centres, clinics, doctors' offices, wellness centres, companies, home-care agencies, community health centres and private homes.

- Registered nursing assistants (or licensed/registered practical nurses) provide nursing care for individuals, usually under the direction of medical practitioners, registered nurses or other health team members. They may provide direct nursing services including a wide range of nursing interventions such as checking vital signs, changing sterile dressings and teaching patients.
- They may prepare and administer medication, monitor established intravenous therapy and use various techniques to assist patients.
- Operating room technicians provide nursing care related to surgical procedures. They may prepare patients for surgery; assist in surgery by laying out instruments, setting up equipment, assisting surgical teams with gowns and gloves and passing instruments to surgeons; and clean and sterilize the operating room and instruments.

Education, Training & Experience

- People in this occupation must complete a vocational college or other approved program for registered nursing assistants (or licensed/registered practical nurses). Most recent entrants have a community college diploma.
- They require registration in all provinces and territories and must complete the National Practical Nurse registration examination in all provinces and territories (except Quebec). In Quebec, nursing assistants must belong to the Ordre des infirmières et infirmiers auxiliaires du Québec.
- Their titles vary by province. They are called licensed practical nurses in British Columbia, Alberta, Saskatchewan, Manitoba, Nova Scotia, Newfoundland, Prince Edward Island and the Yukon; registered practical nurses in Ontario; nursing assistants in Quebec; registered nursing assistants in New Brunswick; and certified nursing assistants in the Northwest Territories.
- Operating room technicians require either additional academic training in operating room techniques or on-the-job training.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

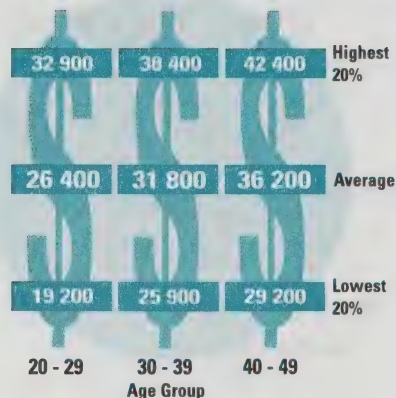
In These Occupations...

- 56,000 people were employed in 1998, an increase of 0.5% from 1988. However, after rising 6.4% over the 1988 to 1993 period, employment decreased 5.5% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 33% work part-time, well above the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 99% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 2.5% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations but among the highest for occupations in health.
- the average earnings are among the lowest for technical, paraprofessional and skilled occupations and for occupations in the health sector.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated “Fair”, since employment opportunities and earnings are at the average levels for all occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The role of registered nursing assistants (or licensed/registered practical nurses) will change as more technology is introduced at the bedside.
- The shift from institutional to home care and the aging of the Canadian population will tend to increase demand for these workers, but will require them to learn new skills. As governments seek to restrain health delivery costs, hospitals may increasingly use registered nursing assistants (or licensed/registered practical nurses) to deliver nursing care. The growing complexity of nursing care and limiting of hospitalization to critically ill patients will place additional educational demands on registered nursing assistants (or licensed/registered practical nurses) employed in acute care.
- Almost all of the increase in employment requirements through 2004 for this occupation is expected to occur in hospitals and other health and social services.

Earnings



Overall Average for All Ages (15+)

33 400

37 400

This Occupation

All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR**FAIR****LIMITED**

LIMITED

Unemployment Rate



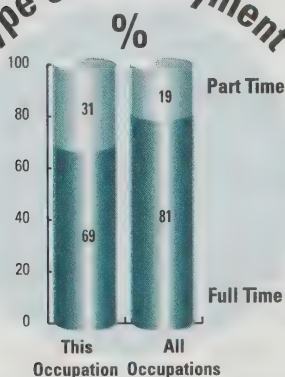
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Assisting Occupations in Support of Health Services

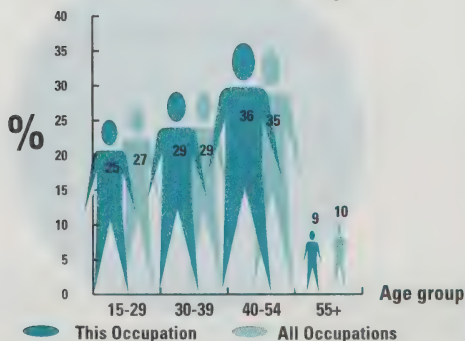
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in dentists' offices, commercial dental laboratories, hospitals and other health care institutions, medical pathology laboratories, pharmacies and educational institutions.

- Dental assistants assist dentists during the examination and treatment of patients, and perform some clerical functions.
- Nurse aides and orderlies assist nurses and other health care workers in the basic care of patients, and transport patients in wheelchairs and on stretchers for treatment or surgery.
- Orthopedic technologists apply and adjust casts and splints on patients and assist orthopedic surgeons.
- Pharmacy assistants assist pharmacists in the preparation of prescriptions.
- Morgue attendants lay out instruments, transfer bodies and assist pathologists at autopsies.

Education, Training & Experience

- People in this group must have some high school or a high school diploma. Many recent entrants have a community college diploma.
- Dental assistants must complete a three-month to one-year college dental assistant program, or high school and on-the-job training. Those who perform duties such as taking X-rays and polishing and cleaning teeth require certification.
- Morgue attendants require on-the-job training.
- Nurse aides and orderlies require some secondary school and on-the-job training, or a program in nursing aid or health care at a college or private institute and practical training.
- Orthopedic technologists and pharmacy assistants must complete high school and have on-the-job training or a college program in their field of work.

In These Occupations...

- 169,000 people were employed in 1998, an increase of 44.8% from 1988. After employment gains of 24.7% from 1988 to 1993, employment growth slowed to 16.1% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

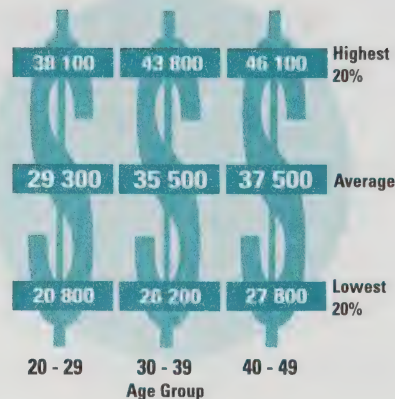
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 75% are nurse aides and orderlies and 13% are dental assistants.
- 31% work part-time, well above the average of 19% for all occupations.
- 3% are self-employed, well below the average of 17% for all occupations.
- 85% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations with similar education/training requirements but among the highest for occupations in the health sector.
- the average earnings are comparable to those for other occupations with similar education/training requirements but are among the lowest for occupations in the health sector.

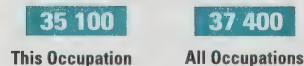
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", as employment opportunities are above average and earnings are below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Restructuring of the health care system may decrease opportunities in these occupations. A shift to home care may, however, prove favourable for many of these occupations. The effect of health care restructuring on the occupations in this group will vary widely among the different occupations.
- Trends which will affect work in these occupations include increasing computerization of patient records and greater use of machinery to lift patients.
- Almost all of the increase in employment requirements through 2004 for these occupations is expected to occur in health and social services, private health practices and medical laboratories and hospitals.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



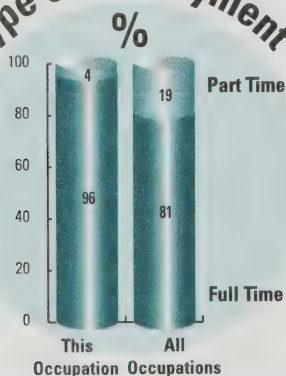
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Judges, Lawyers and Quebec Notaries

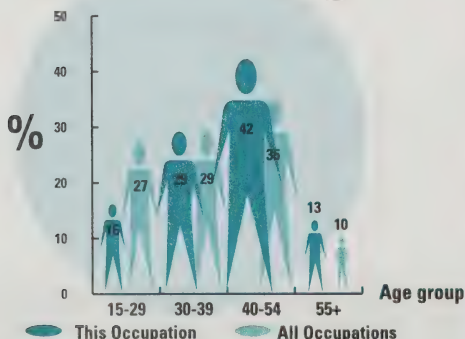
Where They Work



Type of Employment



Distribution by Age



At Work

Judges are appointed by federal or provincial cabinets. Lawyers and Quebec notaries work in law firms, notary offices, prosecutors' offices, governments and businesses. They may also be self-employed.

- Judges preside over courts of law, interpret and enforce rules of procedure, adjudicate civil and criminal cases and administer justice. They may specialize in particular areas of law such as civil, criminal and family law.
- Lawyers and Quebec notaries provide legal advice and represent clients; prepare contracts, wills and other legal documents; and may act as executors, trustees or guardians in estate and family law matters. They may specialize in specific areas of law such as criminal law (lawyers only) and corporate, real estate and labour law.
- Lawyers also plead cases or conduct prosecutions before courts of law, tribunals and boards, and negotiate civil dispute settlements.

This occupational group also includes articling students.

Education, Training & Experience

- People in this group require a pre-law college or university program and a bachelor's degree from a law school. Most recent entrants have an undergraduate university degree.
- Judges usually have extensive experience as lawyers or law professors and continuous bar association membership. They must be members in good standing with their provincial or territorial law societies or bar associations.
- Judges appointed to more senior positions in a court usually have experience as judges in that court.
- Lawyers require a period of articling, a bar admission course and exam, and a provincial or territorial licence.
- Quebec notaries must have a one-year course in notarial practice, a notary registration with the Chamber of Notaries and membership in the Ordre professionnel des notaires du Québec.

In These Occupations...

- 65,000 people were employed in 1998, an increase of 43.2% from 1988. After employment gains of 38.1% from 1988 to 1993, employment growth slowed to 3.6% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

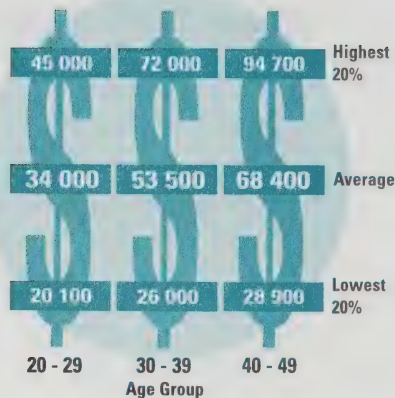
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 96% are lawyers and Quebec notaries and 4% are judges.
- 4% work part-time, well below the average of 19% for all occupations.
- 54% are self-employed, well above the average of 17% for all occupations.
- 29% are women, well below the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 1.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for professional occupations and for occupations in the social science, education, government service and religion sectors.
- the average earnings are among the highest for professional occupations and for occupations in the social science, education, government service and religion sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The high cost of legal services may lead to increased use of dispute-resolution systems in which lawyers' services are not mandatory. Also, electronic filings and the growth of computerized legal databases may increase the use of paralegal technicians at the expense of lawyers.
- The reform of the Quebec Civil Code has increased competition between lawyers and Quebec notaries.
- Almost all of the increase in employment requirements through 2004 for these occupations is expected to occur in the professional services industry.

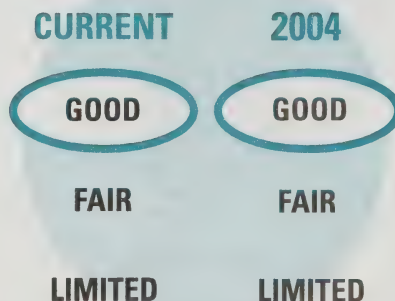
Earnings



Overall Average for All Ages (15+)

62 400	37 400
This Occupation	All Occupations

Work Prospects



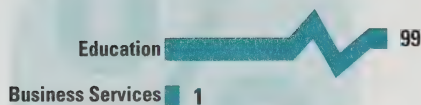
Unemployment Rate



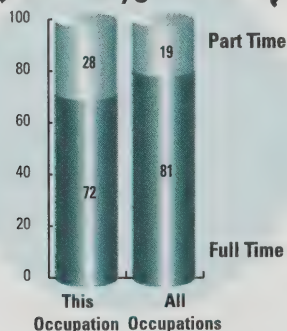
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

University Professors and Assistants

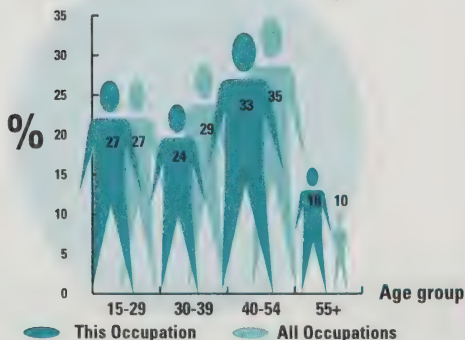
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for universities and degree-granting community colleges.

- University professors teach courses to undergraduate and graduate students; conduct lectures, laboratory sessions and discussion groups; participate in university governance; and direct and advise on research programs. They specialize in particular subjects such as anatomy, biology, chemistry, physics, geography, history, computer science, sociology, political science and engineering and conduct research in their area of specialization.
- Post-secondary teaching and research assistants organize reference and other materials; conduct literature searches, seminars and laboratory sessions; and perform other activities to assist university professors, community college teachers and other faculty members in teaching and research activities. They usually work in their field of study.

This occupational group also includes university instructors and lecturers, university department heads and post-doctoral fellows.

Education, Training & Experience

- People in this group are either in the process of obtaining a college or university degree or have completed a university degree. Most recent entrants have an undergraduate university degree.
- University professors require a doctoral degree in their field of study. They require licences or professional accreditation for teaching in certain regulated fields such as medicine, law, psychology, engineering and architecture.
- Post-secondary teaching and research assistants require enrollment in a college or university.

*Check out the 'big picture' in
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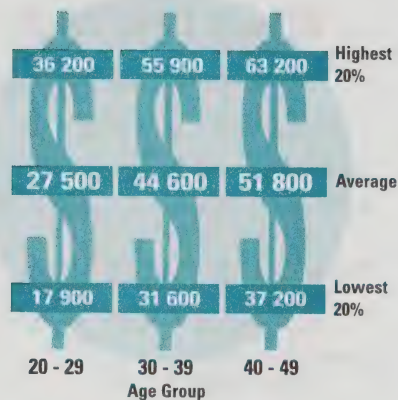
In These Occupations...

- 85,000 people were employed in 1998, an increase of 13.4% from 1988. After employment gains of 12.1% from 1988 to 1993, employment growth slowed to 1.2% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 65% are university professors and 35% are postsecondary teaching and research assistants.
- 28% work part-time, compared to an average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 39% are women, compared to an average of 45% for all occupations.
- the unemployment rate averaged 5.0% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for professional occupations and for occupations in the social science, education, government service and religion sectors.
- the average earnings are among the highest for professional occupations and for occupations in the social science, education, government service and religion sectors.

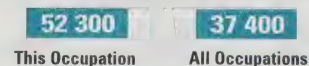
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are below average, although earnings are well above average.
- Over the next five years, this outlook is expected to improve to "Good", as the number of job openings created through retirement is expected to exceed the number of qualified job seekers.
- Many new hires may be for temporary or course appointments.
- Almost all of the increase in employment requirements through 2004 for these occupations is expected to occur in the education sector.

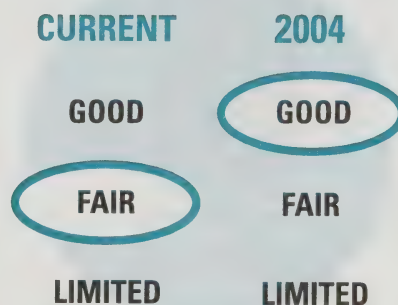
Earnings



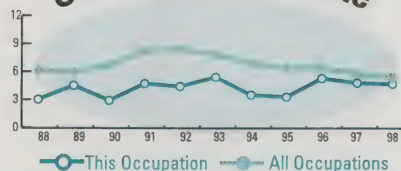
Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

College and Other Vocational Instructors

Where They Work



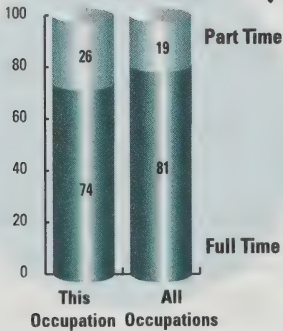
At Work

These instructors work in community and agricultural colleges, technical institutes, language schools, Bible colleges and other vocational schools, private companies and government. They specialize in particular fields of study such as visual arts, dental hygiene, welding, and law and security. Their duties may require them to:

- teach students using lectures, demonstrations, discussion groups, shop sessions and seminars;
- prepare teaching materials and outlines for courses;
- prepare, administer and mark tests and papers;
- advise students on program curricula and career decisions; and
- serve on faculty committees that deal with matters such as budgets, curriculum revision and course and diploma requirements.

This occupational group also includes CEGEP teachers, company trainers and government training officers.

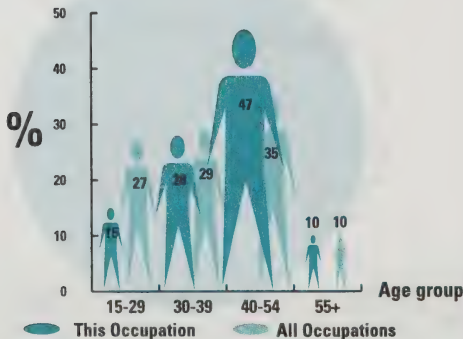
Type of Employment



Education, Training & Experience

- These instructors must have a college diploma or bachelor's degree or demonstrated expertise in their field of instruction. They may require a master's degree. Most recent entrants have an undergraduate university degree or a community college diploma.
- Trades instructors need trade certification, completion of apprenticeship training and additional courses in teaching.
- With experience, they may progress to administrative positions.

Distribution by Age



In These Occupations...

- 78,000 people were employed in 1998, an increase of 30.6% from 1988. After employment gains of 16.6% from 1988 to 1993, employment growth slowed to 12.0% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 26% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the past ten years.
- 10% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers

*Check out the 'big picture' in
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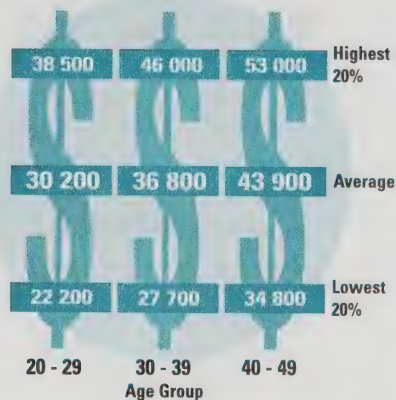
in these occupations has increased significantly over the last ten years.

- 50% are women, compared to an average of 45% for all occupations.
- the unemployment rate averaged 4.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for professional occupations and for occupations in the social science, education, government service and religion sectors.
- the average earnings are among the lowest for professional occupations but are comparable to those for other occupations in the social science, education, government service and religion sectors.

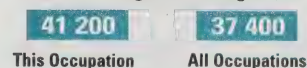
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Technological change is making itself felt in the classroom through the increased use of computers and the use of more sophisticated machinery in technical courses, so instructors may need to upgrade their skills.
- Government funding cutbacks may restrict demand for college instructors. On the other hand, aging of the population of instructors may open positions through retirement or death; however, many of these may be filled on a part-time or temporary basis.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the education and business services industries.

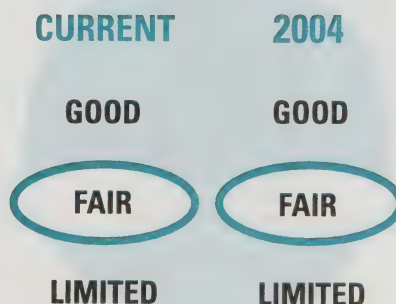
Earnings



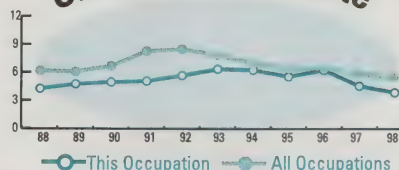
Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



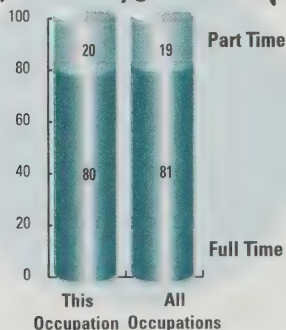
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Secondary and Elementary School Teachers and Counsellors

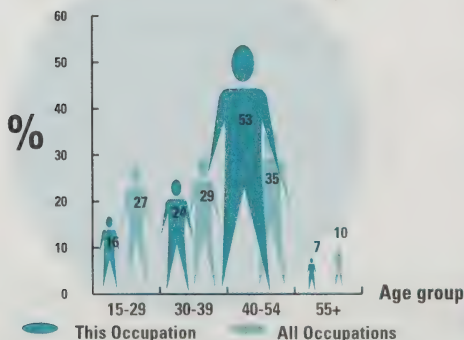
Where They Work

Education 99

Type of Employment %



Distribution by Age



At Work

People in this group work for public and private elementary and high schools and school boards.

- High school teachers prepare and teach academic, technical, vocational and specialized subjects. They may specialize in mathematics, science, computer science, history, vocational and technical education and other subjects.
- Elementary school teachers teach basic subjects such as reading, writing, arithmetic, social studies, physical education, music, art and other subjects. They may specialize in areas such as special education and second-language instruction.
- Kindergarten teachers teach subjects such as reading readiness and number work and introduce students to music, art and literature. They also organize and conduct games and other activities to promote their students' physical, mental and social development.
- School and guidance counsellors advise students on educational issues, career planning and personal development, and coordinate the provision of counselling services to students, parents and teachers. They also administer and interpret standardized intelligence, aptitude and interest tests, and may teach regular classes.

This occupational group also includes department heads, school librarians and supply teachers.

Education, Training & Experience

- People in this group require a bachelor's degree in education. Most recent entrants have an undergraduate university degree.
- They require provincial teaching certificates.
- Special education teachers and second-language instructors often need additional training.
- Teachers of vocational and technical subjects usually must have several years' training or experience in their fields, and sometimes may have a certificate in education, rather than a bachelor's degree.

In These Occupations...

- 384,000 people were employed in 1998, an increase of 16.0% from 1988. After employment gains of 10.2% from 1988 to 1993, employment growth slowed to 5.2% from 1993

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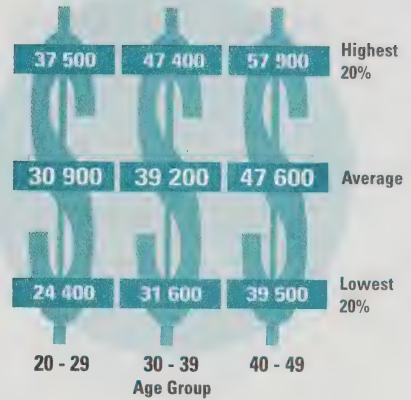
to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

- 58% are elementary and kindergarten teachers and 39% are secondary school teachers.
- 20% work part-time, compared to an average of 19% for all other occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 68% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 2.8% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other professional occupations and for other occupations in the social science, education, government service and religion sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- There may be shortages of teachers in isolated areas, in contrast to surpluses in urban areas.
- The aging of the population of teachers will create openings through retirement and death. This tendency may be accelerated by departure incentives as governments try to restrain educational costs. In a climate of restraint, many positions will be filled as supply teacher positions, work-sharing positions and part-time specialty teaching positions.
- All of the increase in employment requirements through 2004 for these occupations is expected to occur in education.

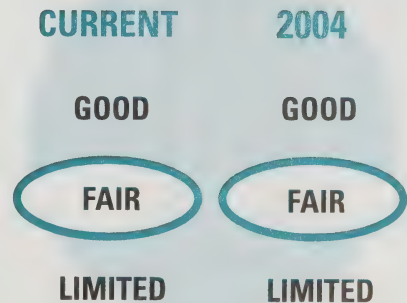
Earnings



Overall Average for All Ages (15+)

44 000	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



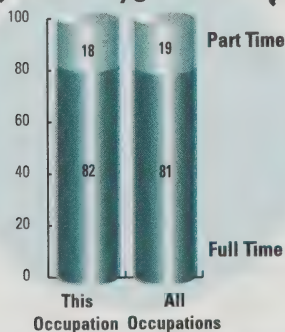
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Secondary School Teachers

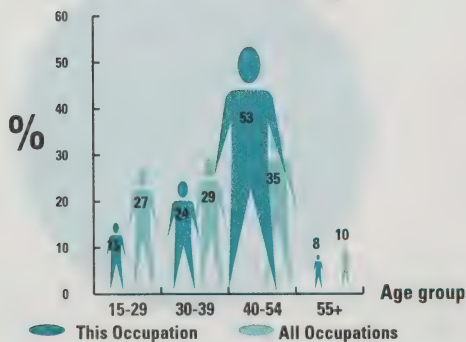
Where They Work

Education 100

Type of Employment



Distribution by Age



At Work

These teachers work in private and public secondary schools. Their duties may require them to:

- prepare and present subject material to students according to an approved curriculum;
- teach students using a systematic plan of lectures, discussions, audio-visual presentations, and laboratory, shop and field studies;
- assign and correct homework;
- prepare, administer and correct tests;
- evaluate students' progress and discuss results with students, parents and school officials;
- participate in staff meetings, educational conferences and teacher training workshops; and
- advise students on course selection and on vocational and personal matters.

This occupation also includes teachers who are school department heads, school librarians, special education teachers and vocational teachers.

Education, Training & Experience

- Teachers must have a bachelor's degree in education and a provincial teaching certificate. Most recent entrants have an undergraduate university degree.
- Teachers of academic subjects often must have a bachelor's degree in arts or science before obtaining their degree in education or must specialize in a specific subject matter in the course of obtaining their degree in education.
- Teachers of vocational and technical subjects usually must have several years' training or experience in their field before obtaining their bachelor's degree or certificate in education.
- School department heads usually require several years' teaching experience.
- With additional training, or as a result of specialization during their bachelor's degree studies, teachers may specialize in special education or English or French as a second language.
- With experience, they may progress to vice-principal or other administrative positions in the educational system.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

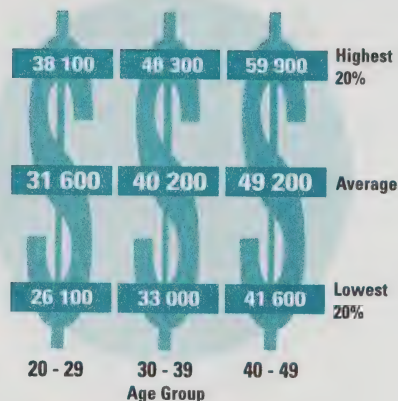
In These Occupations...

- 151,000 people were employed in 1998, an increase of 16.5% from 1988. After employment gains of 14.8% from 1988 to 1993, employment growth slowed to 1.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 18% work part-time, compared to an average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 50% are women, compared to an average of 45% for all occupations.
- the unemployment rate averaged 3.6% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other professional occupations and for other occupations in the social science, education, government service and religion sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Government spending restraints may continue to limit employment growth; however, retirement incentives may lead to an increased demand for replacements. Part-time work is expected to be a major source of job openings over the next five years. Technological change, such as use of computers and the Internet, is likely to affect teaching methods, but will have little impact on employment levels.
- All of the increase in employment requirements through 2004 for this occupation is expected to occur in education.

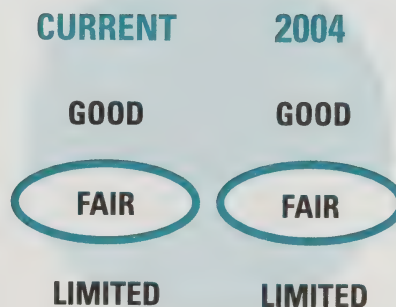
Earnings



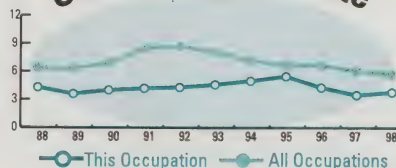
Overall Average for All Ages (15+)

45 700	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



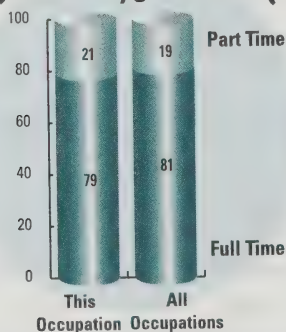
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Elementary and Kindergarten Teachers

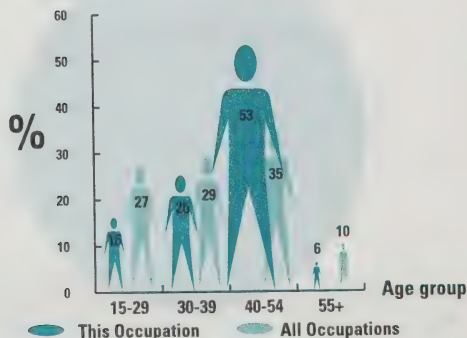
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in private and public elementary schools. Their duties may require them to:

- prepare and present courses to students according to an approved curriculum;
- teach students using a systematic plan of lessons, discussions, audio-visual presentations and field trips;
- lead students in activities to promote their physical, mental and social development and their school readiness;
- assign and correct homework;
- prepare, administer and correct tests;
- evaluate students' progress and discuss results with students, parents and school officials; and
- participate in staff meetings, educational conferences and teacher training workshops.

This occupation also includes elementary school librarians and special education teachers.

Education, Training & Experience

- People in this occupation require a bachelor's degree in education and a provincial teaching certificate. Most recent entrants have an undergraduate university degree.
- They need additional training or specialization during their bachelor's degree studies to specialize in special education.
- They need an additional certificate or specialization during their bachelor's degree studies to teach English or French as a second language.
- With experience, they may progress to positions such as education consultant or school principal.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

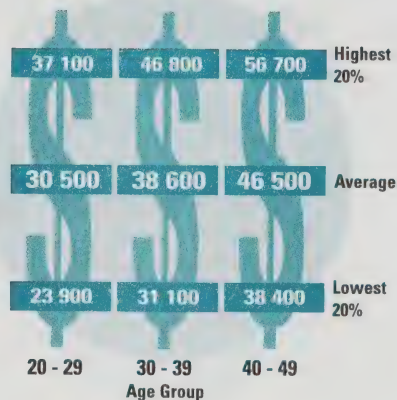
In These Occupations...

- 221,000 people were employed in 1998, an increase of 8.8% from 1988. This reflects an increase of 5.1% from 1988 to 1993 and 3.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 21% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in this occupation has increased significantly over the last ten years.
- 1% are self-employed, well below the average of 17% for all occupations.
- 81% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 2.2% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other professional occupations and for other occupations in the social science, education, government service and religion sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Government spending restraints may continue to limit employment growth; however, retirement incentives may increase demand for replacements. Part-time work is expected to be a major source of job openings.
- All of the increase in employment requirements through 2004 for this occupation is expected to occur in education.

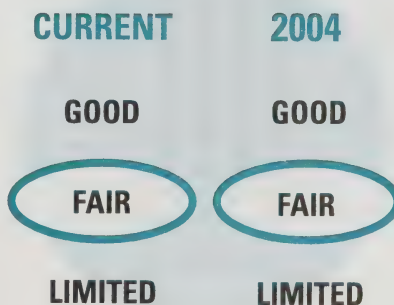
Earnings



Overall Average for All Ages (15+)

42,700	37,400
This Occupation	All Occupations

Work Prospects



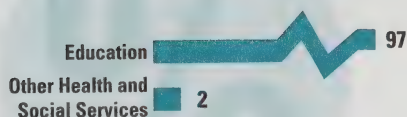
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

School and Guidance Counsellors

Where They Work



At Work

These counsellors work for school boards and in elementary and high schools. Their duties may require them to:

- counsel students on course selection, school adjustment, truancy, study habits and career planning;
- counsel students on personal and social issues such as substance abuse, depression, sexuality, self-esteem and family problems;
- consult with teachers, parents, school administrators and community agencies;
- coordinate the provision of counselling and information services such as career information services and professional development sessions for students, parents and teachers; and
- administer and interpret standardized intelligence, aptitude and interest tests.

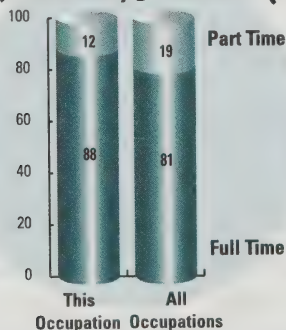
Education, Training & Experience

- These counsellors require a bachelor's degree in education and a teacher's certificate in the province where they work.
- They usually require graduate courses in counselling and master's level preparation is strongly preferred.
- They usually require some teaching experience.
- In Quebec, they must be members of the Ordre professionnel des conseillers et conseillères d'orientation du Québec.

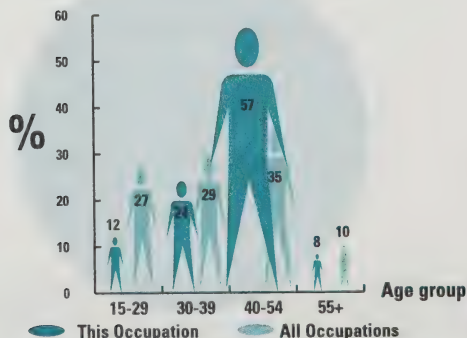
In These Occupations...

- 11,000 people were employed in 1998, an increase of 28.4% from 1988. After employment gains of 18.2% from 1988 to 1993, employment growth slowed to 8.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 12% work part-time, compared to an average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 64% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 2.5% from 1996 to 1998, compared to the national average of 6.0%.

Type of Employment



Distribution by Age



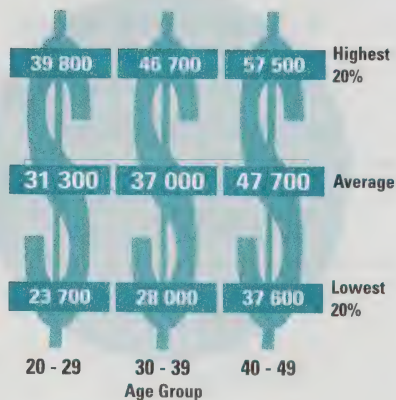
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- the average earnings are comparable to those for other professional occupations and for other occupations in the social science, education, government service and religion sectors.

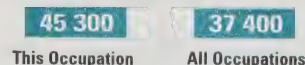
National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Government spending restraints may affect employment in these occupations more than in other occupations in teaching. Part-time work and positions shared between schools are likely to be a major source of job openings over the next five years.
- All of the increase in employment requirements through 2004 for this occupation is expected to occur in education.

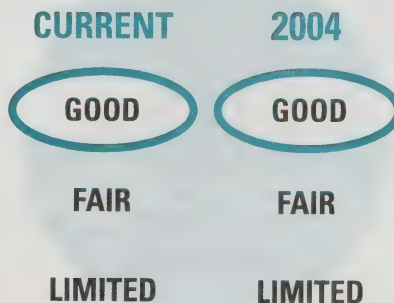
Earnings



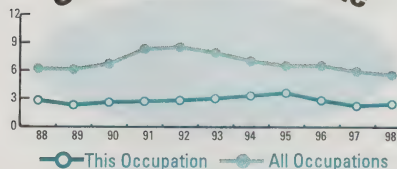
Overall Average for All Ages (15+)



Work Prospects



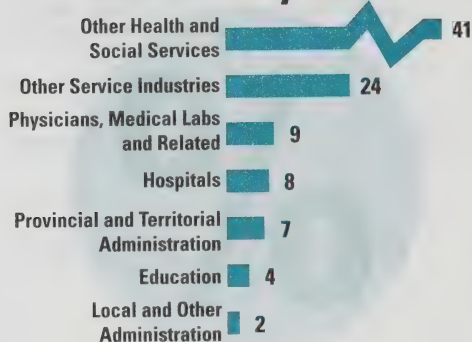
Unemployment Rate



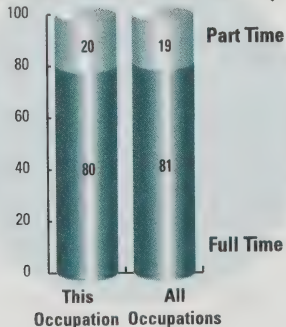
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Psychologists, Social Workers, Counsellors, Clergy and Probation Officers

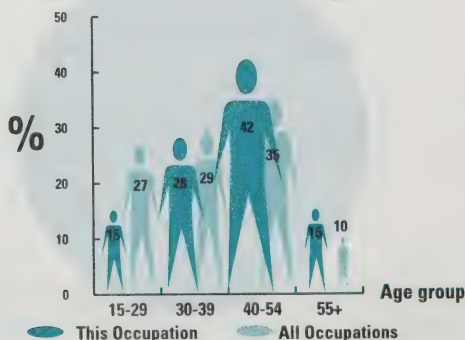
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for government, clinics, correctional facilities, health care institutions, social service agencies, welfare organizations, school boards, schools, universities, churches, synagogues, temples and other places of worship. They may work in private practice.

- Psychologists diagnose psychological and emotional disorders, counsel clients, provide therapy and conduct research.
- Social workers provide counselling and therapy and referrals to other supportive social services.
- Counsellors assist individual clients and groups to overcome personal problems and achieve personal goals.
- Ministers of religion conduct religious services and provide spiritual and moral guidance.
- Parole officers monitor criminal offenders released from prison to serve the remainder of their sentences in the community.

This occupational group also includes probation officers and classification officers in correctional institutions.

Education, Training & Experience

- People in this group usually require a bachelor's degree in their area of work. Some require a master's or doctoral degree in a specific or related discipline. Most recent entrants have an undergraduate university degree.
- They usually need supervised practical experience.
- Some must complete provincial exams and have provincial certificates and membership in their professional associations.

In These Occupations...

- 107,000 people were employed in 1998, an increase of 46.8% from 1988. After employment gains of 26.8% from 1988 to 1993, employment growth slowed to 15.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 34% are social workers; 27% are family and marriage counsellors; 23% are ministers of religion; and 13% are psychologists.
- 20% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in these

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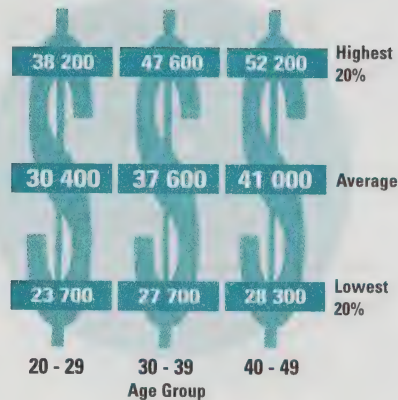
occupations has increased significantly over the last ten years.

- 9% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 57% are women, well above the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 2.4% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for professional occupations and for occupations in the social science, education, government service and religion sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are above average and earnings are below the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Government spending restraint in health and social services may have a negative impact on employment requirements in these occupations. The best opportunities may be in the private sector.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in health and social services and in private health practices.

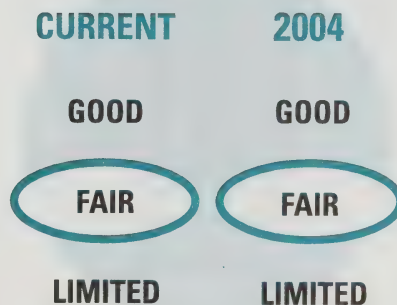
Earnings



Overall Average for All Ages (15+)

37 900	37 400
This Occupation	All Occupations

Work Prospects



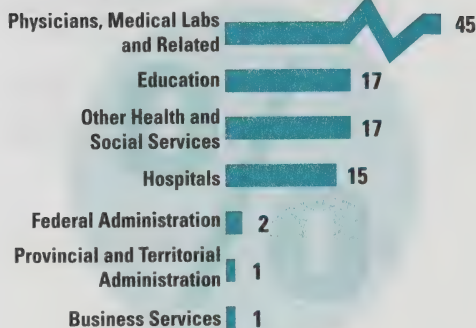
Unemployment Rate



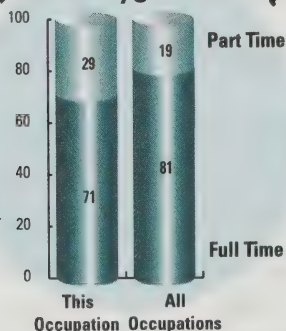
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Psychologists

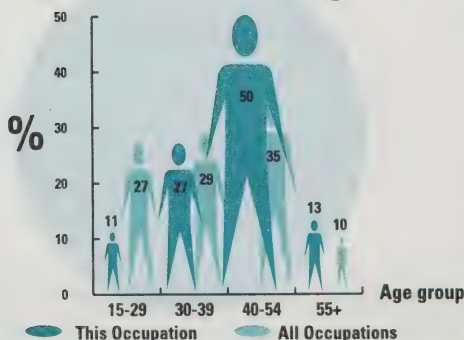
Where They Work



Type of Employment



Distribution by Age



At Work

Psychologists work in clinics, correctional facilities, hospitals, rehabilitation centres, schools and school boards and universities. They may also be self-employed.

- They diagnose psychological and emotional disorders, help clients manage physical illnesses and disorders, counsel clients, provide therapy, research and apply theory relating to behaviour and mental processes, and teach.
- They work with psychological theory and principles regarding behaviour and mental processes such as learning, memory, perception and language development.
- They may specialize in clinical psychology, school psychology, industrial/organizational work or experimental research.
- They may also specialize in specific areas such as behavioural psychology, child psychology, clinical neuropsychology, health psychology, educational psychology, industrial psychology and sports psychology.

Education, Training & Experience

- Psychologists must have a post-graduate university degree in psychology and a provincial certificate of registration in all provinces and the Northwest Territories.
- They must have a doctoral degree in British Columbia and a master's or doctoral degree in all other provinces and the Northwest Territories.
- They usually must complete a period of supervised practical experience.
- They usually must complete a provincial written or oral examination.
- In Quebec, they must be members of the Ordre professionnel des psychologues du Québec.
- In some provinces, with additional training and experience, they may become specialized in a particular area.

In These Occupations...

- 13,000 people were employed in 1998, an increase of 66.0% from 1988. After employment gains of 47.4% from 1988 to 1993, employment growth slowed to 12.6% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 29% work part-time, well above the average of 19% for all occupations. The proportion of part-time workers in this

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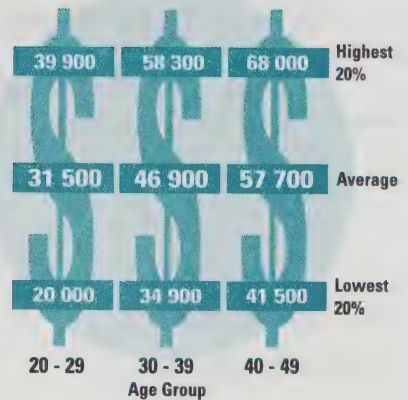
occupation has increased significantly over the last ten years.

- 35% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 62% of psychologists are women, well above the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 1.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for professional occupations and for occupations in the social science, education, government service and religion sectors.
- the average earnings are among the highest for professional occupations and for occupations in the social science, education, government service and religion sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Growth will be limited in some areas as spending restraint continues in health and social services. The outlook may be better for clinical psychologists and for those willing to work in correctional centres.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in private health practices.

Earnings



Overall Average for All Ages (15+)

52 700	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



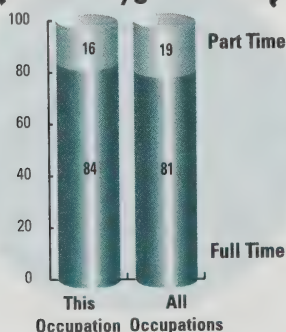
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Social Workers

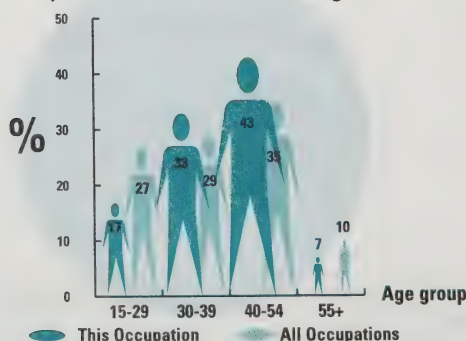
Where They Work



Type of Employment



Distribution by Age



At Work

Social workers work alone or in teams in hospitals, clinics, school boards, family services agencies, children's aid agencies, welfare administration agencies, correctional facilities, and federal and provincial departments. They may also work in private practice. Their duties may require them to:

- interview clients individually, in families or in groups to assess their situation and problems and determine the types of services they require;
- provide counsel and therapy to assist clients in developing skills to deal with and resolve their social and personal problems;
- plan programs of assistance for clients including referrals to agencies that provide financial help, legal aid, housing, medical treatment and other services;
- investigate cases of child abuse or neglect and take authorized protective action when necessary;
- act on behalf of client groups in the community and lobby for solutions to social problems; and
- develop and advise on social policy, conduct social research and assist in community development.

Education, Training & Experience

- Social workers must have a bachelor's degree in social work and usually require some supervised practical experience.
- Post-graduate education leading to a master's or doctoral degree is also available.
- Most recent entrants have an undergraduate university degree.
- They usually must complete a provincial written or oral examination.
- They usually must have membership in a provincial association of social workers.
- Social workers in Newfoundland, Prince Edward Island, New Brunswick, Nova Scotia, Quebec, Ontario and Saskatchewan must have a provincial certificate of registration.
- Most social work programs are accredited by the Canadian Association of Social Workers.
- In Quebec, they must be members of the Ordre professionnel des travailleurs sociaux du Québec.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

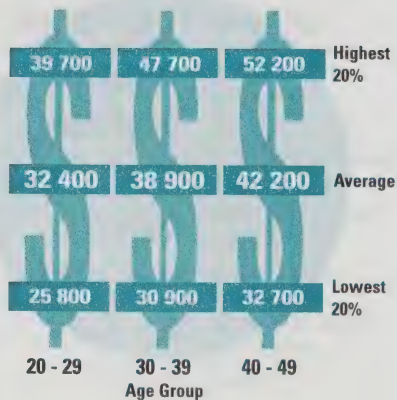
In These Occupations...

- 36,000 persons were employed in 1998, an increase of 60.2% from 1988. After employment gains of 37.9% from 1988 to 1993, employment growth slowed to 16.2% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the last ten years, and 8.2% over the last five years.
- 16% of social workers are part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in this occupation has increased significantly over the last 10 years.
- 3% of social workers are self-employed, well below the average of 17% for all occupations.
- 75% of social workers are women, well above the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last 10 years.
- The unemployment rate averaged 2.5% from 1996 to 1998, compared to the national average of 6.0%.
- The average earnings are among the lowest for professional occupations and for occupations in the social science, education, government service and religion sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are well above average and earnings are well below the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Hospitals, federal and municipal governments and the educational system account for a large portion of the employment of social workers. Employment requirements for social workers will be adversely affected by reduced provincial and federal expenditures on health and social programs.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in health and social services.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



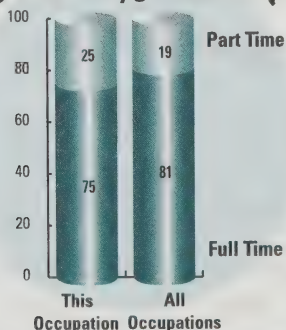
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Family, Marriage and Other Related Counsellors

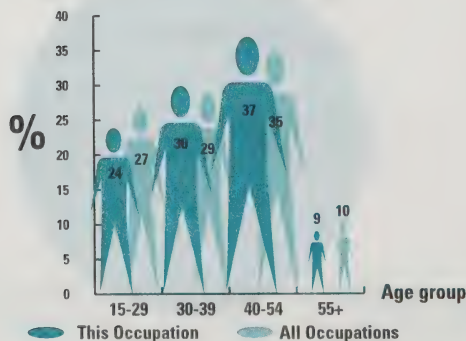
Where They Work



Type of Employment



Distribution by Age



At Work

These counsellors work for social service agencies and hospitals or in private practice. Their duties may require them to:

- interview clients, prepare case histories and assess problems;
- develop and implement counselling and intervention programs to assist clients in determining goals;
- counsel clients and provide therapy;
- evaluate the effectiveness of counselling programs and clients' progress;
- provide public education and consultation to other professionals or groups regarding counselling services, issues and methods; and
- specialize in dealing with a specific client group such as injured workers, or with specific problems such as drug and alcohol addiction, marital difficulties and behavioural disorders.

This occupation also includes addictions counsellors, bereavement counsellors, sex therapists, rehabilitation counsellors and youth counsellors.

Education, Training & Experience

- These counsellors require a master's degree in counselling. In some instances, appropriate experience may serve as a substitute for a post-graduate degree. Most recent entrants have an undergraduate university degree or a community college diploma.
- They usually become specialized in a particular area through training and experience.
- With additional training and experience, they may progress to positions in social service management.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

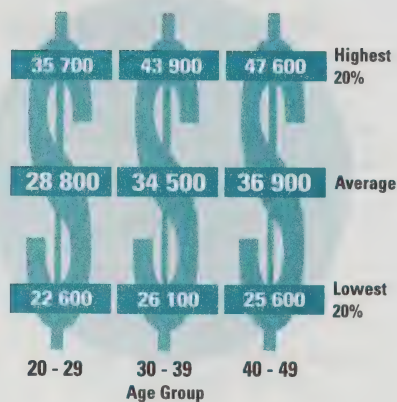
In These Occupations...

- 29,000 people were employed in 1998, an increase of 84.5% from 1988. After employment gains of 54.4% from 1988 to 1993, employment growth slowed to 19.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 25% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in this occupation has increased significantly over the last ten years.
- 9% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 70% are women, well above the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 3.5% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for professional occupations and for occupations in the social science, education, government service and religion sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities and earnings are both at average levels for all occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Government spending restraints in social programs and health services will be an important factor limiting the growth of employment in this occupation. The best opportunities may be in the private sector.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in health and social services.

Earnings



Overall Average for All Ages (15+)

34 100	37 400
This Occupation	All Occupations

Work Prospects

CURRENT	2004
GOOD	GOOD
FAIR	FAIR
LIMITED	LIMITED

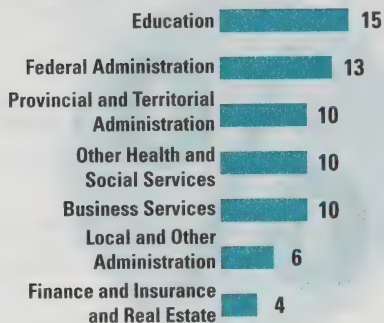
Unemployment Rate



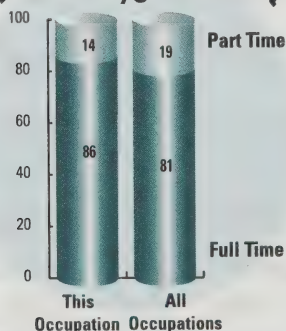
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Policy and Program Officers, Researchers and Consultants

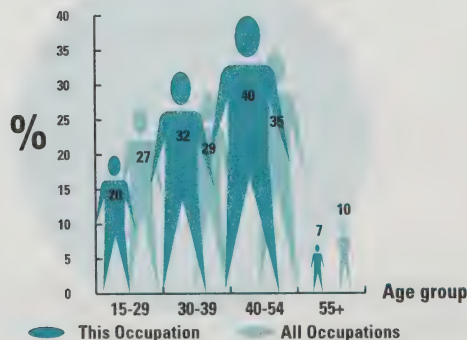
Where They Work



Type of Employment



Distribution by Age



At Work

These professionals work for government; educational and research institutions; business, professional and recreational organizations; advisory, consulting and marketing firms; non-governmental agencies; and other organizations.

- Professionals in natural and applied science, social, health, education, economic development and marketing areas conduct research, develop policies, provide advice and implement or administer various programs related to their field of work.
- Economists and economic policy researchers and analysts conduct research and develop models to provide for economic forecasting.
- Recreation and sports program supervisors and consultants oversee and administer programs and activities, provide consulting services and develop policies.
- Program officers in government administer and operate programs associated with institutions such as Parliament and activities such as international relations and elections.
- Social science professionals such as anthropologists, geographers, historians, political scientists, sociologists, linguists and archaeologists study, analyze and conduct research in their respective fields.
- Psychometricians administer and interpret psychological tests.

Education, Training & Experience

- People in this group usually require a college diploma or a university degree in their field of work. Most recent entrants have an undergraduate university degree or a master's degree.
- Some may require a master's or doctoral degree in their field of work.
- They may require several years' experience in their field of work.
- Foreign service officers must take competitive examinations.
- Recreation and sports program supervisors and consultants may require certificates in areas such as fitness and lifesaving.

In These Occupations...

- 74,000 people were employed in 1998, an increase of 48.9% from 1988. After employment gains of 26.9% from 1988 to 1993, employment growth slowed to 17.3% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

Related Occupation(s): 4160, 4161, 4163, 4166

Part 2 Field of Study Cross-index: M120, U240, M820, U820, U860, C893, C210, U410, U620, M860, C841, M870, U890, M880, U880, M420, M830, U830

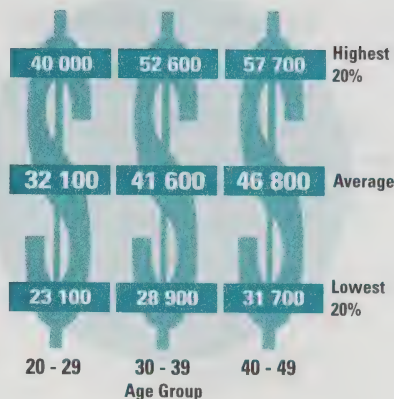
NOC 416

- 27% are health and social policy researchers; 26% are economic development officers; 13% are educational policy researchers; and 11% are recreation and sports program supervisors.
- 14% work part-time, compared to an average of 19% for all occupations.
- 16% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 56% are women, well above the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 4.3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for professional occupations and for occupations in the social science, education, government service and religion sectors.
- the average earnings are comparable to those for other professional occupations and for other occupations in the social science, education, government service and religion sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Government spending restraints may continue to slow employment growth or decrease employment levels in these occupations. The effects will vary among the different occupations in this group.
- Employment requirements for these occupations are expected to increase through 2004 across a broad range of industries, with much of the increase occurring in the business services, health and social services and education industries.

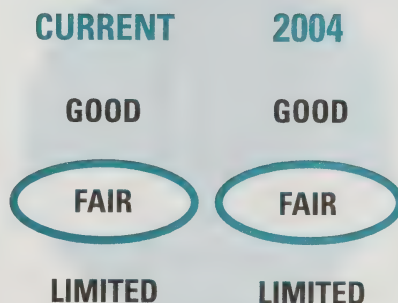
Earnings



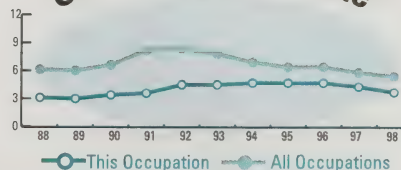
Overall Average for All Ages (15+)

42 700	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



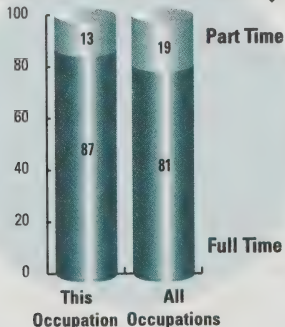
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Health and Social Policy Researchers, Consultants and Program Officers

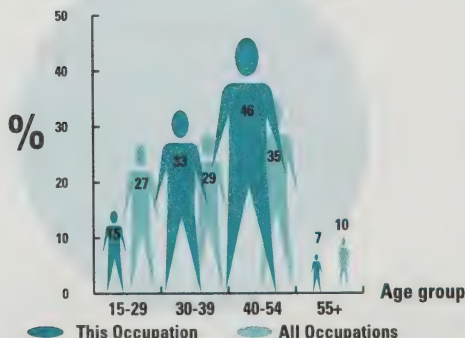
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupation work in government departments and agencies, consulting firms, professional associations and non-governmental organizations.

- Social policy researchers develop social programs, legislation and proposals based on demographic, social and economic analyses.
- Home economists conduct research and advise consumers on food products, textiles and other consumer goods.
- Social survey researchers develop questionnaires, conduct surveys, analyze data and interpret statistics on social issues.
- Health policy researchers, consultants and program officers conduct research, produce reports and administer health care policies and programs.

This occupation also includes housing policy analysts and international aid and development project officers.

Education, Training & Experience

- People in this occupation usually require, at a minimum, a bachelor's degree or college diploma. Most recent entrants have an undergraduate university degree or a master's degree.
- People in social policy usually require a bachelor's degree or college diploma in social science or business administration. They may also need a master's degree in social science or business administration.
- People in health policy must have a bachelor's degree or college diploma in health science, public administration or hospital administration, or a bachelor's degree in social science. They may also need to complete a graduate degree and usually require several years' experience as health care professionals or community or social service workers.

In These Occupations...

- 20,000 people were employed in 1998, an increase of 70.9% from 1988. After employment gains of 34.6% from 1988 to 1993, employment growth slowed to 27.0% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 13% work part-time, compared to an average of 19% for all occupations.

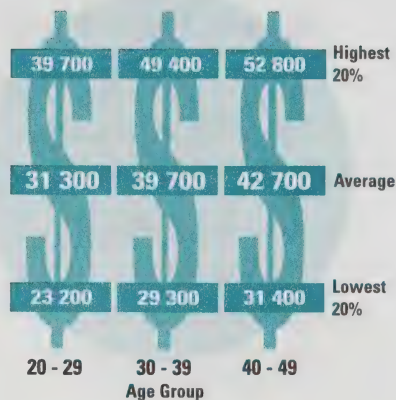
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 10% are self-employed, compared to an average of 17% for all occupations.
- 68% are women, well above the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 4.5% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for professional occupations and for occupations in the social science, education, government service and religion sectors.
- the average earnings are among the lowest for professional occupations but are comparable to other occupations in the social science, education, government service and religion sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Health and social policy reforms at the federal and provincial levels could provide some employment opportunities in the near term. Over a longer period, government spending restraints may limit employment growth in this occupation.
- Employment requirements for this occupation are expected to increase across a broad range of occupations through 2004, with much of the increase in health and social services.

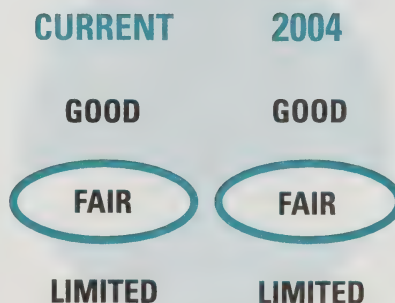
Earnings



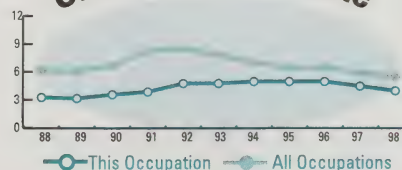
Overall Average for All Ages (15+)

40 400	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



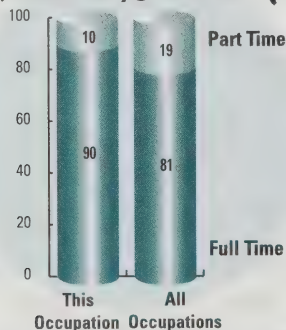
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Natural and Applied Science Policy Researchers, Consultants and Program Officers

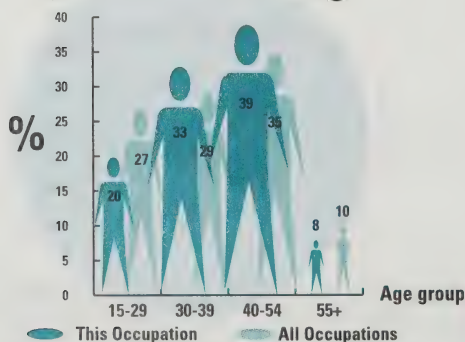
Where They Work



Type of Employment %



Distribution by Age



At Work

People in this occupation work for federal, provincial and municipal governments, private companies and advisory and consultant agencies. They may also be self-employed.

- Ergonomists conduct research and advise on interrelationships between persons, equipment and working or living environments to ensure products and work methods maximize safety, productivity and comfort.
- Occupational hygienists study physical and chemical hazards and stresses in the workplace. They suggest changes to work processes and provide information to workers on ways to reduce risk to specific occupational hazards.
- Science policy and program officers research and advise on policies and develop and administer programs related to transportation, communications, natural resources, agriculture, the environment, energy, land use and other scientific fields.

This occupation also includes fisheries analysts, industrial hygienists, scientific consultants, patent agents and transportation safety and transport program analysts.

Education, Training & Experience

- People in this occupation usually must have an undergraduate university degree or college diploma in a related scientific or technical discipline. Many recent entrants have an undergraduate university degree.
- They may require a master's degree in a related scientific discipline.
- Occupational hygienists may require certification by the Canadian Registration Board of Occupational Hygienists or, in Quebec, the Conseil d'accréditation en hygiène industrielle du Québec.
- With experience, people in this occupation may progress to managerial positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

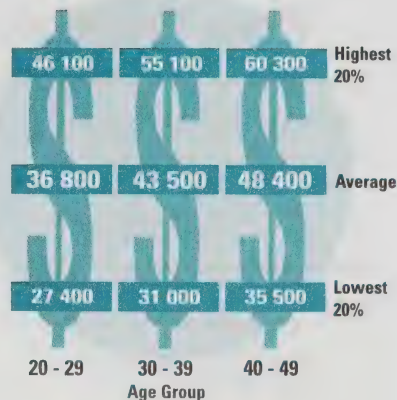
In These Occupations...

- 7,000 people were employed in 1998, an increase of 67.6% from 1988. After employment gains of 47.3% from 1988 to 1993, employment growth slowed to 13.8% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 10% work part-time, compared to an average of 19% for all occupations.
- 20% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 33% are women, well below the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 3.3% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other professional occupations and for other occupations in the social science, education, government service and religion sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Government spending decisions on research and regulatory enforcement, in areas such as health and the environment, may have an impact on the outlook for these occupations. Consequently, the best opportunities in this occupation are likely to be in the private sector - for example, in environmental consulting firms.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the professional services and business services industries.

Earnings



Overall Average for All Ages (15+)

45 600	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

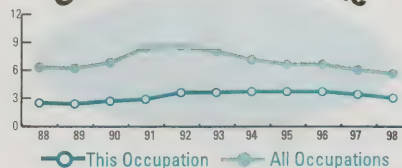
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



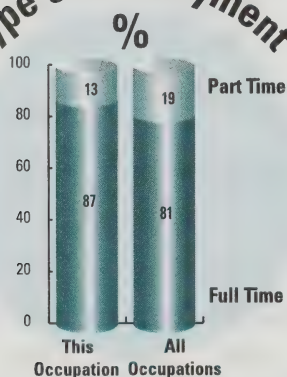
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Economic Development Officers and Marketing Researchers and Consultants

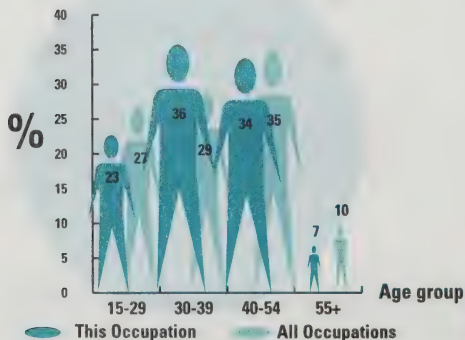
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupation work for government agencies, marketing firms and business associations. They may also be self-employed. Their duties may require them to:

- develop policies and administer programs to promote business investment in urban and rural areas;
- conduct social and economic surveys to assess development potential and future trends;
- respond to questions from members of the business community concerning development opportunities;
- review development proposals and provide advice on procedures and requirements for government approval;
- conduct surveys and analyze data on the buying habits and preferences of consumers;
- conduct research on marketing for industrial and commercial products; and
- develop social and economic profiles of urban and rural areas to encourage investment.

This occupation also includes business, industrial, tourism and regional development officers, and tourism industry consultants.

Education, Training & Experience

- People in this occupation require a bachelor's degree in economics, commerce, business administration or public administration. Many recent entrants have an undergraduate university degree.
- With experience, they may progress to managerial positions.

In These Occupations...

- 20,000 people were employed in 1998, an increase of 59.8% from 1988. After employment gains of 35.4% from 1988 to 1993, employment growth slowed to 18.0% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 13% work part-time, compared to an average of 19% for all occupations.
- 24% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.

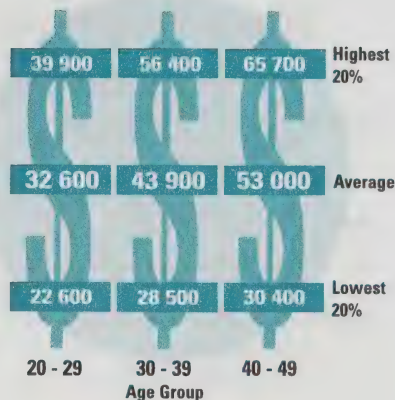
**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

- 50% are women, compared to an average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 4.4% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for professional occupations and for occupations in the social science, education, government service and religion sectors.
- the average earnings are comparable to those for other professional occupations and for other occupations in the social science, education, government service and religion sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Free trade and the increasing use of information technology are likely to increase opportunities in this occupation; government spending restraints and restructuring in the financial sector will have the opposite effect. Marketing researchers and economic development officers with a strong understanding of other economies and of international trade and investment issues are likely to have the most success.
- Employment requirements for this occupation are expected to increase across a broad range of industries through 2004, with much of the increase in the business services industry.

Earnings



Overall Average for All Ages (15+)

44 100	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Education Policy Researchers, Consultants and Program Officers

Where They Work



At Work

People in this occupation work in government departments, school boards and education research institutes. They may also be self-employed. Their duties may require them to:

- conduct research, produce reports and administer education policies and programs;
- evaluate curriculum programs and recommend improvements;
- develop the structure, content and objectives of new programs;
- conduct statistical analyses to determine the cost and effectiveness of education policies and programs;
- provide ongoing professional development training and consultative services to teachers; and
- develop teaching materials and other resources for program delivery.

This occupation also includes curriculum developers and planners, and education and special education coordinators.

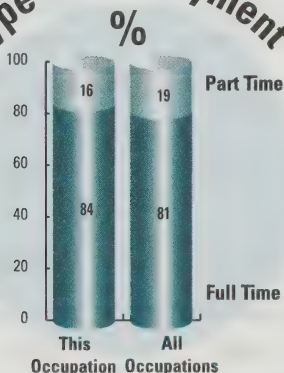
Education, Training & Experience

- People in this occupation must have a bachelor's degree in education or in a discipline such as social science or business administration. Many recent entrants have an undergraduate university degree.
- They may require a master's degree in education.
- They usually need several years' experience as school teachers.
- They usually require a teacher's certificate in their province of employment.
- With experience, they may progress to managerial positions.

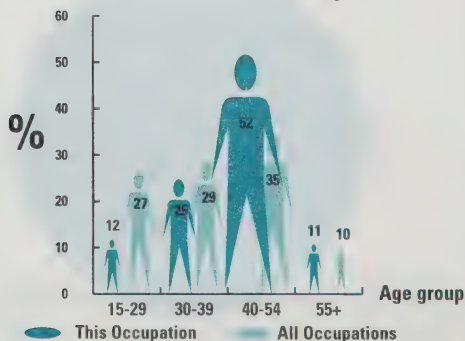
In These Occupations...

- 10,000 people were employed in 1998, an increase of 84.0% from 1988. After employment gains of 27.4% from 1988 to 1993, employment grew 44.3% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 16% work part-time, compared to an average of 19% for all occupations.
- 15% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers

Type of Employment



Distribution by Age



**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

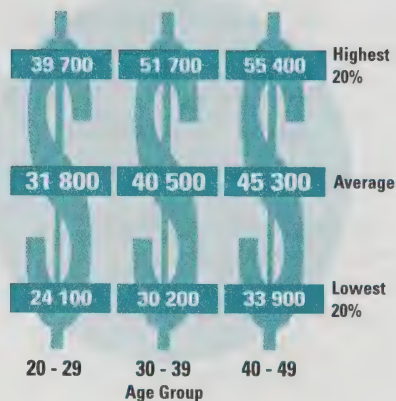
in this occupation has increased significantly over the last ten years.

- 64% are women, well above the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 3.7% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other professional occupations and for other occupations in the social science, education, government service and religion sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Budgetary restraint by all levels of government will limit employment opportunities in this occupation, although educational restructuring may provide some openings in the short term. Private sector curriculum consultants may have the best opportunities.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in education.

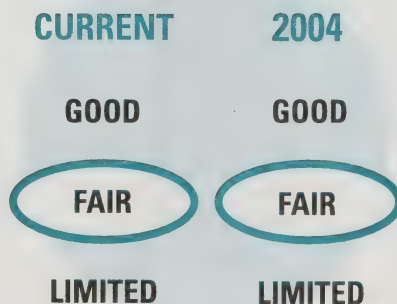
Earnings



Overall Average for All Ages (15+)

44 600	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



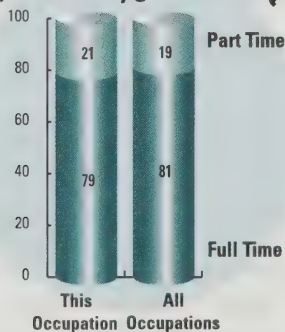
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Paralegal, Social Services Workers and Occupations in Education and Religion

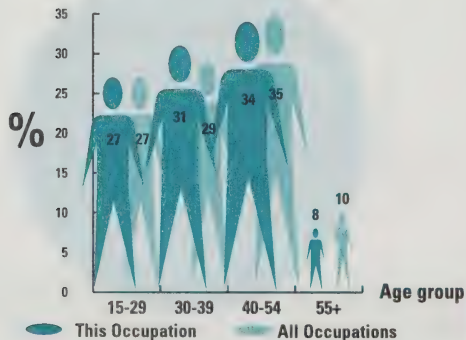
Where They Work



Type of Employment %



Distribution by Age



At Work

People in this group work for government, law firms, social service and private employment agencies, group homes, hospitals, prisons and correctional facilities, rehabilitation centres, nurseries and daycare centres, elementary and high schools, and places of worship.

- Paralegals and legal assistants prepare legal documents, maintain records and conduct research to assist lawyers.
- Trademark agents prepare trademark applications.
- Community and social service workers administer community services and social assistance programs.
- Employment counsellors provide assistance with employment searches and career planning.
- Instructors and teachers of persons with disabilities teach skills to children and adults with physical and developmental disabilities.
- Driving instructors teach vehicle driving skills.
- Driver's licence examiners conduct road tests to determine drivers' eligibility for licensing.
- Brothers, nuns and other religious workers provide support to ministers of religion and their religious communities.

Education, Training & Experience

- People in this group usually need a college diploma, a bachelor's degree or expertise in their area of work. Most recent entrants have an undergraduate university degree or a community college diploma.
- Employment counsellors may substitute a high school diploma and several years' experience related to counselling for post-secondary school education.
- Driving instructors must obtain a licence in their province of work.

In These Occupations...

- 180,000 people were employed in 1998, an increase of 56.1% from 1988. After employment gains of 31.5% from 1988 to 1993, employment growth slowed to 18.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 42% are community and social service workers; 17% are paralegals and related workers; 16% are instructors and

*Check out the 'big picture' in
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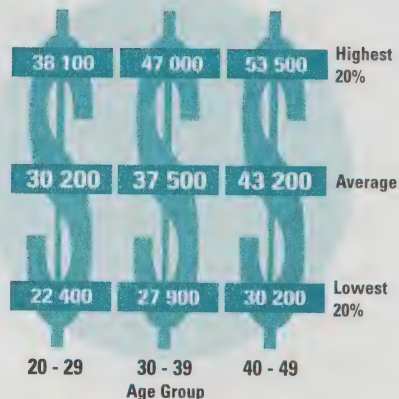
teachers of disabled persons; and 10% are employment counsellors.

- 21% work part-time, compared to an average of 19% for all occupations.
- 12% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 78% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 4.2% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations but are among the lowest for occupations in the social science, education, government service and religion sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings both are at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Government spending restraint in social services is likely to limit employment opportunities in several of these occupations. The effects of spending restrictions will vary greatly among the occupations in this group.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the health and social services, professional services, education and business services industries.

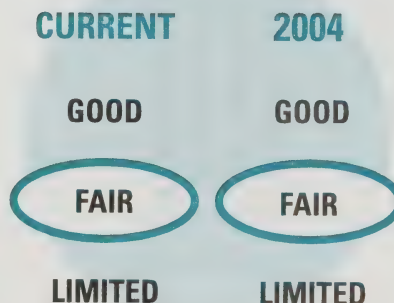
Earnings



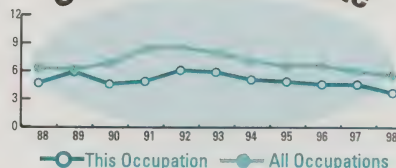
Overall Average for All Ages (15+)

39 700	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



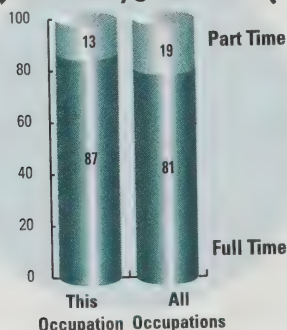
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Paralegal and Related Occupations

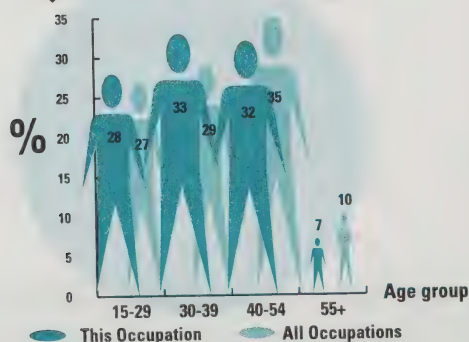
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupational group work in law firms and in legal departments throughout the public and private sectors. Trademark agents are also employed by trademark development and searching firms. Trademark agents and paralegals may also be self-employed.

- Paralegals, legal assistants and law clerks in law firms prepare legal documents, maintain records and files, and conduct research. They may also conduct interviews.
- Unsupervised paralegals provide certain legal services directly to the public for a fee, where allowed by provincial legislation. Notaries public prepare promissory notes, wills, mortgages and other legal documents. They may also administer oaths, take affidavits and depositions, and witness and certify the validity of signatures on documents.
- Trademark agents research and prepare trademark applications.
- Independent paralegals provide certain legal services as allowed by provincial legislation. They may represent clients in small claims court.

Education, Training & Experience

- People in this occupation must have a high school diploma. Most recent entrants have a community college diploma or an undergraduate university degree.
- Legal assistants and paralegals must complete a bachelor's degree in law or a college diploma in a legal assistant or law clerk program or in-house training.
- Notaries public must complete a one-year university notary public course and in-house training at their workplace. They also require a provincial licence. In British Columbia, they must be members of the Society of Notaries Public.
- Trademark agents must complete two years' in-house training and an examination conducted by the Patent and Trade Mark Institute of Canada. They must also register with the federal Trade-Marks Office.
- Independent paralegals usually obtain their education through experience and industry sponsored courses.

In These Occupations...

- 30,000 people were employed in 1998, an increase of 82.4% from 1988. After employment gains of 43.8% from 1988 to

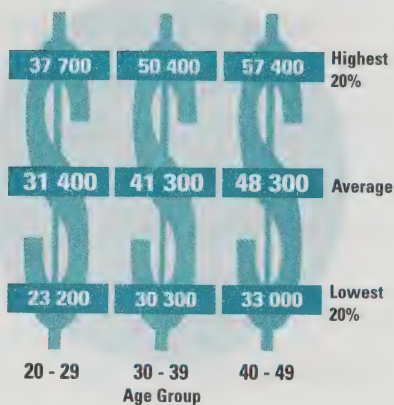
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 1993, employment growth slowed to 26.8% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 13% work part-time, compared to an average of 19% for all occupations.
- 17% are self-employed, equal to the average for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 87% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 2.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the social science, education, government service and religion sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations but are comparable to those for other occupations in the social science, education, government service and religion sectors.
- employment changes tend to mirror movements in overall economic activity.

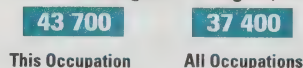
National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Paralegals are likely to work increasingly with computerized filing systems and computerized legal databases. Opportunities for paralegals should be good, as competitive pressures force the substitution of paralegals for more highly paid lawyers.
- Most of the increase in employment requirements for this occupation through 2004 is expected to occur in the professional services industry.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

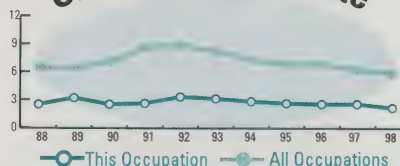
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



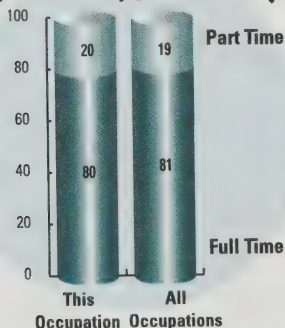
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Community and Social Service Workers

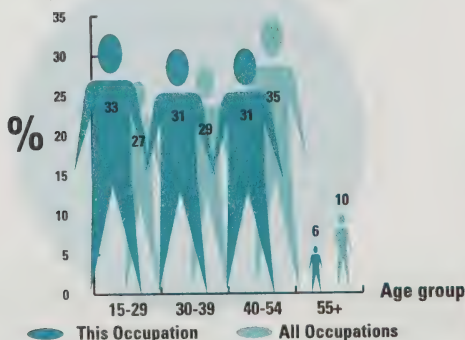
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupation work in social service and government agencies, group homes, correctional facilities and other organizations. Their duties may require them to:

- interview clients to obtain case histories and prepare intake reports;
- assess and investigate clients' eligibility for social benefits, and advise clients regarding social assistance and pensions;
- refer clients to other social services;
- counsel and provide assistance to clients living in group homes and halfway houses, and supervise their activities;
- provide crisis intervention and emergency shelter services;
- implement programs such as life skills workshops, substance abuse treatment and youth services under the supervision of social workers or health care professionals; and
- assist in evaluating the effectiveness of treatment programs.

This occupation includes addictions workers, native outreach workers, youth workers, rehabilitation workers, family service workers, drop-in centre workers and welfare and compensation officers.

Education, Training & Experience

- People in this occupation usually complete a university or college program in social work, counselling or another social science discipline. Most recent entrants have an undergraduate university degree or a community college diploma.
- For some positions, previous experience in a social service environment as a volunteer or in a support capacity may replace formal education requirements.
- With additional training and experience, people in this occupation may progress to professional occupations in social services such as family and marriage counsellors, social workers and probation officers.

In These Occupations...

- 75,000 people were employed in 1998, an increase of 76.7% from 1988. After employment gains of 52.2% from 1988 to 1993, employment growth slowed to 16.1% from 1993 to

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

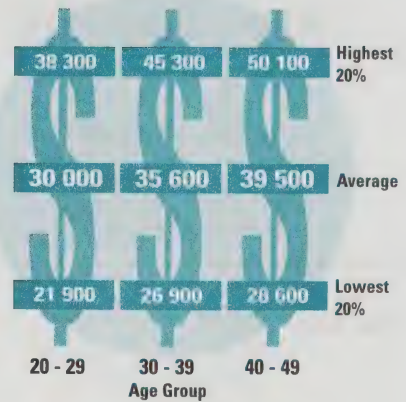
1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

- 20% work part-time, compared to an average of 19% for all occupations.
- 6% are self-employed, well below the average of 17% for all occupations.
- 81% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 5.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the social science, education, government service and religion sectors.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations but among the lowest for occupations in the social science, education, government service and religion sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities and earnings both are at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Continued government spending restraint in health and social services is likely to severely limit employment prospects in this occupation. In the longer run, an aging population will increase demand for the services of these workers. The best job opportunities may be in the private sector.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in health and social services.

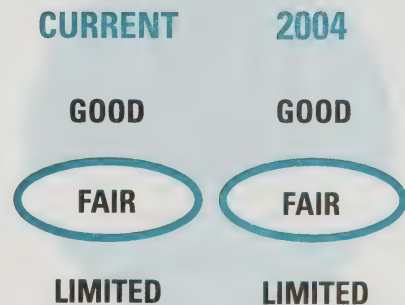
Earnings



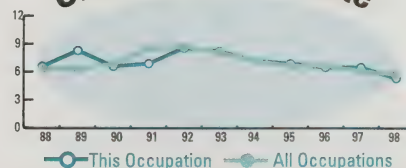
Overall Average for All Ages (15+)

37 200	37 400
This Occupation	All Occupations

Work Prospects



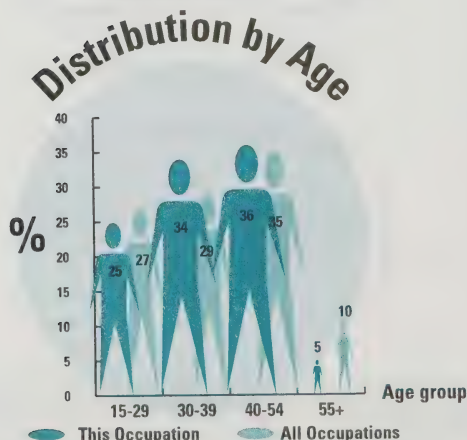
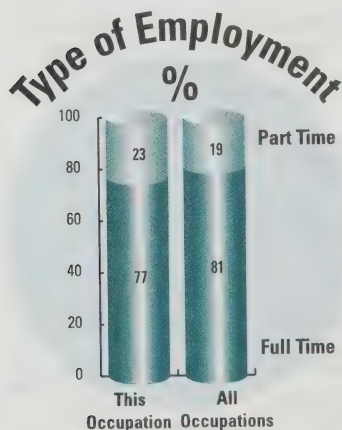
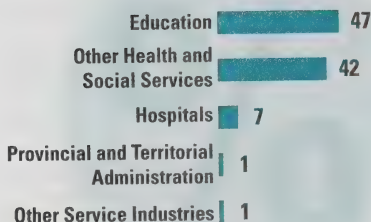
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Instructors and Teachers of Disabled Persons

Where They Work



At Work

People in this occupation work in rehabilitation centres and elementary and high schools. Their duties may require them to:

- instruct students who are blind and visually impaired in reading and writing braille and in the use of special equipment;
- instruct students who are deaf and hearing-impaired in lip-reading, finger spelling and sign language;
- instruct students who are hearing-impaired in the formation and development of sounds for speech using hearing aids and other devices;
- instruct persons with physical disabilities and their families in the use of rehabilitative techniques, prosthetic devices, wheelchairs and other equipment; and
- assist individuals with physical or developmental disabilities to develop life skills.

Education, Training & Experience

- People in this occupation usually require a bachelor's degree in education or a related field of work such as psychology or social work. In some instances, people with a community college diploma and appropriate experience may work in this occupation. Most recent entrants have an undergraduate university degree or a community college diploma.
- They must complete an appropriate training program in rehabilitation or special education.
- Instructors of the blind require certification by the Canadian National Institute for the Blind.
- Teachers who work in public schools require provincial teaching certificates.

In These Occupations...

- 30,000 people were employed in 1998, an increase of 18.5% from 1988. However, after rising 22.2% over the 1988 to 1993 period, employment decreased 3.0% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 23% work part-time, compared to an average of 19% for all occupations.

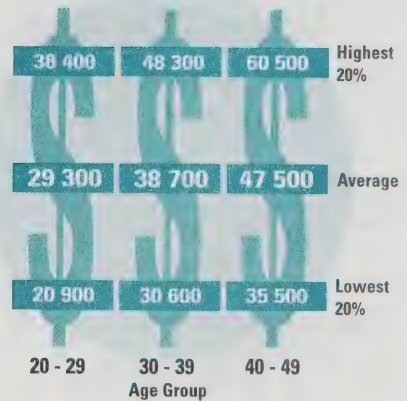
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 3% are self-employed, well below the average of 17% for all occupations.
- 84% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 3.9% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations but are comparable to those for other occupations in the social science, education, government service and religion sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are average, although earnings are above the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- There is increasing concern in society for persons with disabilities, but public funds are dwindling in a number of areas. Government spending restraints may limit opportunities in this occupation, perhaps to a lesser extent than for other social service workers.
- Almost all of the increase in employment requirements through 2004 for this occupation is expected to occur in health and social services and education.

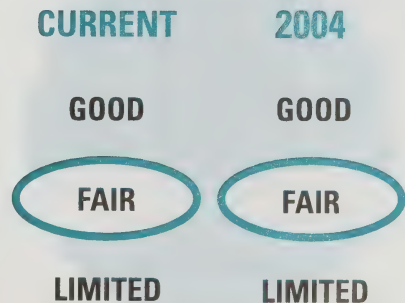
Earnings



Overall Average for All Ages (15+)

42 300	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



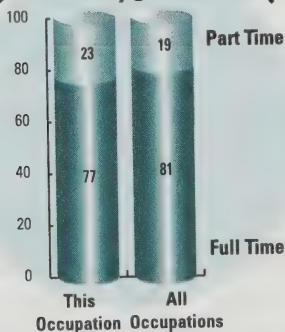
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Librarians, Archivists, Conservators and Curators

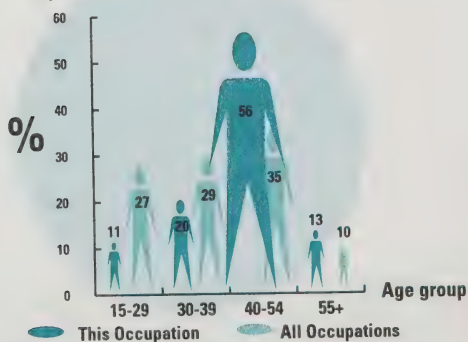
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in schools and for government, libraries, archives, museums, art galleries and other organizations.

- Librarians develop, organize and maintain library collections and provide advisory services for users. They perform manual and on-line reference searches, arrange inter-library loans and supervise technicians, assistants and clerks. They may specialize in particular collections or work in information management areas such as maintaining Web sites or providing training in Internet resources.
- Archivists acquire, research and store historical documents, photographs, maps, audio-visual and other materials. They ensure the preservation and storage of these materials and develop classification systems so that users can gain access to them.
- Conservators restore and conserve paintings, photographs, sculptures, furniture, pottery and other works of art and antiquity. They provide consultation to museums, art galleries and individuals, and supervise conservation technicians and other museum technicians. They may specialize in a particular conservation field.
- Curators recommend the acquisition of paintings, photographs, sculptures, documents and other museum and gallery artifacts. They research the origin and history of artifacts, develop the storyline and theme of displays and exhibitions, and supervise curatorial assistants and other museum technicians. They may specialize in particular collections.

Education, Training & Experience

- People in this group usually must have a university degree. Many recent entrants have an undergraduate university degree.
- Librarians need a master's degree in library science.
- Archivists usually require a master's degree in archival studies library science or history.
- Conservators need a master's degree in art conservation or a college diploma in conservation technology and several years' experience in conservation work.
- Curators must have a bachelor's or master's degree in museology, art history or a field related to their area of work.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

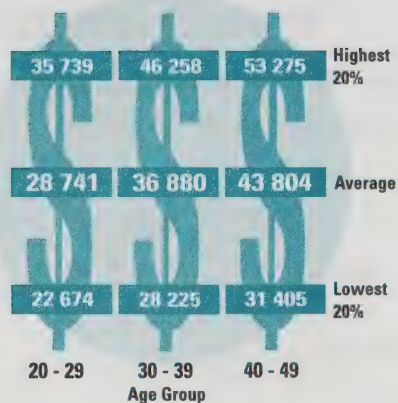
In These Occupations...

- 18,000 people were employed in 1998, a decrease of 1.1% from 1988. After rising 12.7% over the 1988 to 1993 period, employment decreased 12.2% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 77% are librarians; 12% are conservators and curators; and 11% are archivists.
- 23% work part-time, compared to an average of 19% for all occupations.
- 2% are self-employed, well below the average of 17% for all occupations.
- 80% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 3.5% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the art, culture, recreation and sport sectors.
- the average earnings are among the lowest for professional occupations but are comparable to those for other occupations in the art, culture, recreation and sport sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, the outlook is expected to improve to "Good", as a very high retirement rate in these occupations is expected to increase the number of job openings more rapidly than the number of qualified job seekers.
- Government spending restraint in the cultural sector will decrease employment opportunities in public libraries and galleries. Opportunities in the private sector include maintaining corporate archives and corporate memory systems and using the Internet for information searches.
- The increasing availability of computerized reference material, both on the Internet and on compact disks, will transform the work of librarians. Growing use of computerized information storage will mean that archivists must organize information retrieval systems that allow easy and reliable access to stored data.
- Most of the increase in employment requirements through 2004 for these occupations will occur in education.

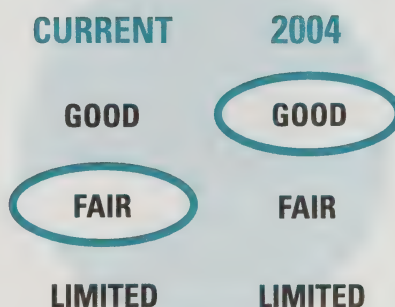
Earnings



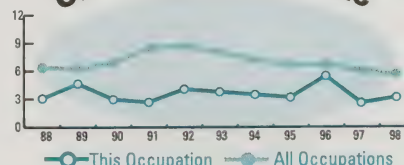
Overall Average for All Ages (15+)

40 879	37 400
This Occupation	All Occupations

Work Prospects



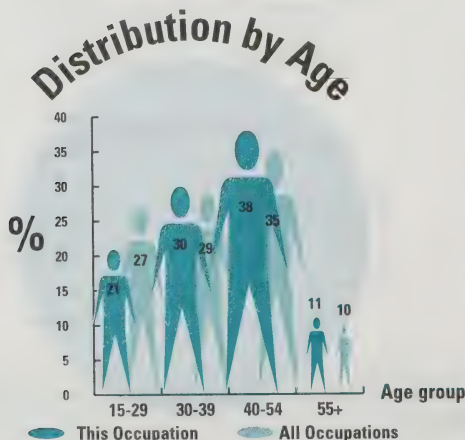
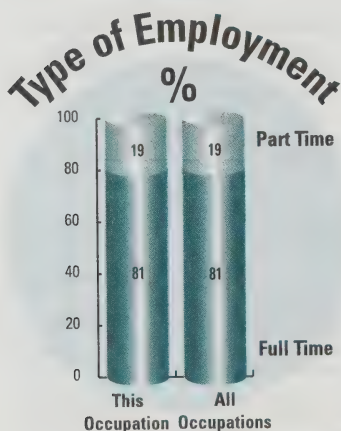
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Writing, Translating and Public Relations Professionals

Where They Work



At Work

People in this group work for governments; advertising agencies; large corporations; private consulting firms; magazines, journals, newspapers and other publishers; radio and television networks and stations; social agencies; private translation and interpreting agencies; and international and other organizations. They may also be self-employed.

- Writers research and write books, scripts, plays, essays, speeches, manuals, specifications and other non-journalistic articles.
- Editors review, evaluate and edit manuscripts, articles, news reports and other material for publication and broadcast, and co-ordinate the activities of staff.
- Journalists research, investigate, interpret and communicate news and public affairs through newspapers, television, radio and other media.
- Specialists in public relations and communications develop and implement communications strategies and information programs, publicize activities and events, and maintain media relations on behalf of clients.
- Translators adapt written material from one language to another.
- Interpreters translate oral communication from one language to another.
- Sign-language interpreters translate sign language to spoken language and vice versa.

Education, Training & Experience

- People in this group usually require a college diploma or a university degree in their area of work. Many recent entrants have an undergraduate university degree.
- Translators and terminologists usually require an undergraduate university degree; interpreters usually need a postgraduate degree. They may require certificates and membership in their professional organization.
- Translators and interpreters working for international organizations usually require fluency in three languages.

In These Occupations...

- 78,000 people were employed in 1998, an increase of 32.0% from 1988. After employment gains of 17.1% from 1988 to 1993, employment growth slowed to 12.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

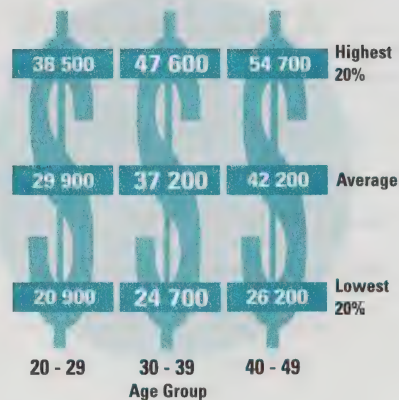
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 35% work in public relations and communications; 24% are writers; 16% are journalists; 15% are translators, terminologists and interpreters; and 10% are editors.
- 19% work part-time, equal to the average for all occupations. The proportion of part-time workers in these occupations has increased significantly over the last ten years.
- 35% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 56% are women, well above the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 4.7% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for professional occupations.
- the average earnings are among the lowest for professional occupations but are comparable to those for other occupations in the art, culture, recreation and sport sectors.

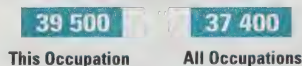
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The continuing growth of niche publications and the development of Internet publishing will create opportunities in writing, journalism and editing occupations.
- The Canadian Translation Industry Sectoral Committee expects strong growth in employment opportunities in translation in the near future.
- Contracting-out of government work will increase opportunities in the private sector for translators. Translators between Spanish and English or French and between Asian languages and English or French are likely to have the best opportunities.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the business services and printing and publishing industries.

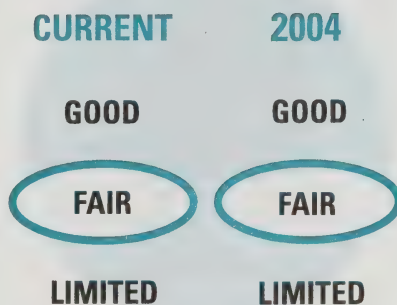
Earnings



Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



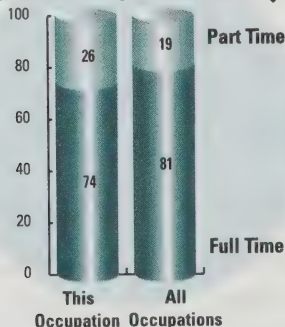
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Writers

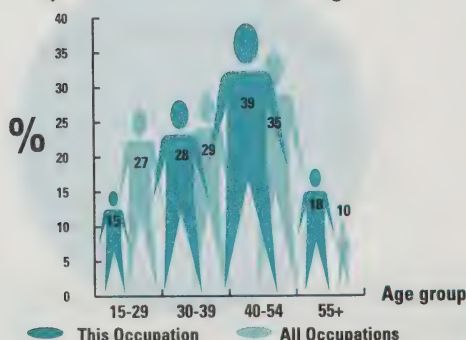
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupation work in advertising agencies, governments, large corporations, private consulting firms, publishing firms and other organizations.

- Self-employed writers work on a free-lance basis.
- Creative writers such as novelists, playwrights, script writers, poets and humorists conceive and write material for publication or presentation. They may conduct research for factual content and obtain other necessary information.
- Technical and specifications writers analyze material such as specifications, notes and drawings and write manuals, user guides and other documents to explain the installation, operation and maintenance of electronic, mechanical and other equipment.
- Copywriters study and determine selling features of products and services and write text for advertisements and commercials.
- Writers may specialize in a particular subject or type of writing. This occupation also includes television writers, essayists, speech writers and scientific writers.

Education, Training & Experience

- People in this occupation have different educational requirements, depending on their specialization. Most recent entrants have a university degree; others have some other post-secondary qualification.
- Technical writers usually require a university degree in an area of specialization such as computer science or engineering.
- Copywriters usually require a university degree or college diploma in English, French, marketing or another discipline.
- Creative writers may take creative writing programs offered by universities and colleges.
- Most people in this occupation require talent and ability, as demonstrated by a portfolio of work, in order to be hired.

In These Occupations...

- 19,000 people were employed in 1998, an increase of 37.1% from 1988. Most of the growth occurred from 1993 to 1998, when employment increased 28.0%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 26% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in this occupation has increased significantly over the last ten years.

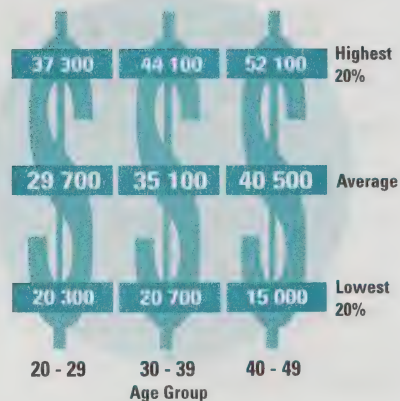
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 72% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 51% are women, compared to an average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 2.3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the art, culture, recreation and sport sectors.
- the average earnings are among the lowest for professional occupations but are comparable to those for other occupations in the art, culture, recreation and sport sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities are well above average, although earnings are at the average level.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Computers are transforming writers' work in several ways. First, computer programming creates a strong demand for technical writers familiar with programming. Second, use of the Internet and computerized reference materials has changed writers' research methods drastically. Third, modems allow rapid transfer of material between writer, editor and publisher.
- Government spending restrictions have decreased openings for writers in government. Contracting-out of government work and the proliferation of niche publications (including Internet publications) are favourable trends for self-employed writers.
- Employment requirements for this occupation are expected to increase across a broad range of industries through 2004, with much of the increase in the business services and other services industries.

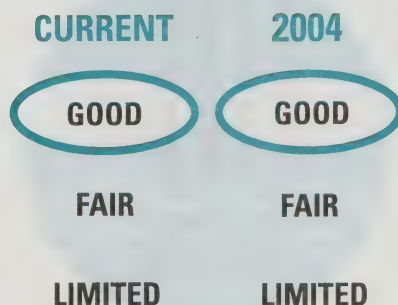
Earnings



Overall Average for All Ages (15+)

38 300	37 400
This Occupation	All Occupations

Work Prospects



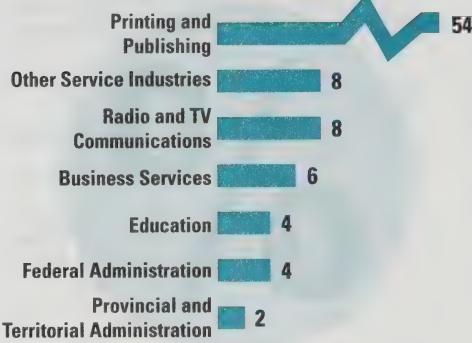
Unemployment Rate



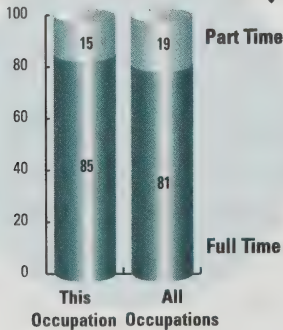
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Editors

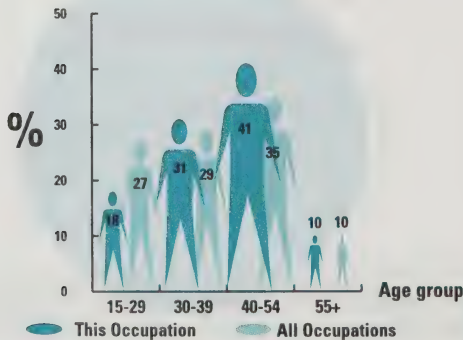
Where They Work



Type of Employment



Distribution by Age



At Work

Editors work for publishing firms, magazines, journals, newspapers, and radio and television networks and stations, and for companies and government departments that produce publications. They may also be self-employed. Their duties may require them to:

- evaluate manuscripts, articles, news copy and wire service dispatches for publication or broadcast;
- recommend or make changes in content, style and organization of submitted copy;
- correct errors in spelling, grammar and syntax, and shorten or lengthen copy as required;
- confer with authors, staff writers, reporters and others regarding revisions to copy;
- plan layout or format of copy according to printed space or broadcast time;
- plan and coordinate activities of staff and ensure deadlines are met;
- plan coverage of upcoming events and assign work;
- negotiate royalties and payments to authors and freelance writers; and
- specialize in particular subjects such as sports or in particular types of publications such as newspapers.

This occupation also includes advertising editors, art editors, news editors, photo editors and production editors.

Education, Training & Experience

- Editors usually require a bachelor's degree in journalism, English, French or a related discipline. Many recent entrants have an undergraduate university degree.
- They usually must have several years' experience in journalism, writing, publishing or a related field.
- With experience, they may progress to management positions such as editor-in-chief or managing editor.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

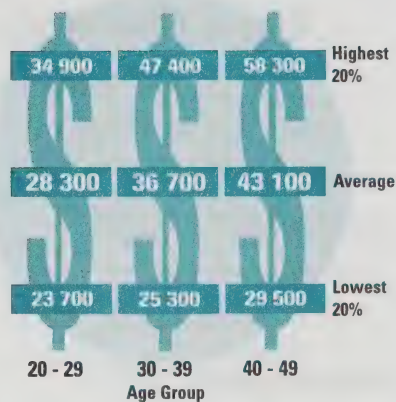
In These Occupations...

- 8,000 people were employed in 1998, a decrease of 0.1% from 1988. After rising 6.2% over the 1988 to 1993 period, employment decreased 6.0% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 15% work part-time, compared to an average of 19% for all occupations.
- 22% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 52% are women, compared to an average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 4.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for professional occupations.
- the average earnings are among the lowest for professional occupations but are comparable to those for other occupations in the art, culture, recreation and sport sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Technological change has increased the need for editors with skills in particular technical areas - for example, computer program manuals. Contracting-out in both government and the private sector may mean that more and more editors work on a free-lance basis. This trend is reinforced by the availability of modems to transfer between material between writer, editor and publisher.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the printing and publishing industry.

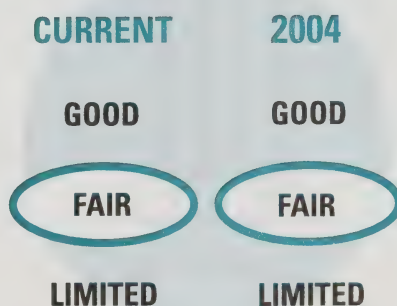
Earnings



Overall Average for All Ages (15+)

39 700	37 400
This Occupation	All Occupations

Work Prospects



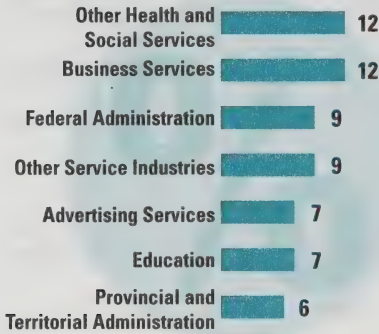
Unemployment Rate



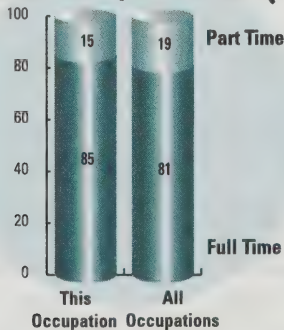
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Professional Occupations in Public Relations and Communications

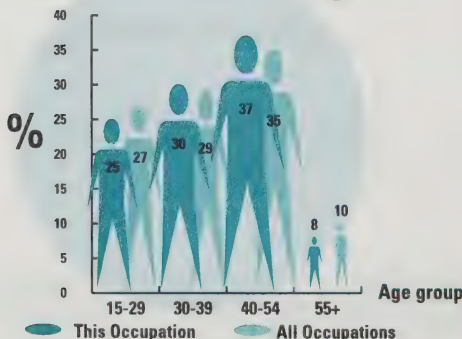
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupation work for consulting firms, corporations, associations, government, social agencies and other organizations. They may also be self-employed. Their duties may require them to:

- develop, implement and evaluate communications strategies and programs to inform clients, employees and the public of initiatives and policies of businesses, government and other organizations;
- gather, research and edit material for in-house and public audiences;
- prepare or oversee the preparation of reports, briefs, bibliographies, speeches, presentations and press releases;
- develop and organize workshops, meetings, ceremonies and other events for publicity, fundraising and other information purposes;
- prepare and deliver educational and publicity programs to increase awareness of museums, galleries and other tourist attractions;
- initiate and maintain contact with the media;
- arrange interviews and news conferences; and
- assist in the preparation of brochures, reports, newsletters and other material.

This occupation also includes fundraising consultants, media relations officers, museum educators, press secretaries and publicists.

Education, Training & Experience

- People in this occupation usually require a university degree or college diploma in public relations, communications, journalism or a discipline related to a particular subject. Most recent entrants have an undergraduate university degree.
- With additional training and experience, they may progress to managerial positions in public relations and communications.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

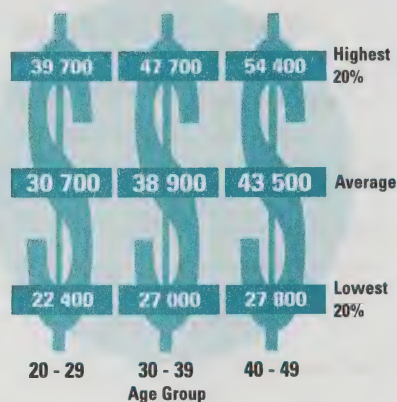
In These Occupations...

- 27,000 people were employed in 1998, an increase of 48.7% from 1988. After employment gains of 32.9% from 1988 to 1993, employment growth slowed to 11.9% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 15% work part-time, compared to an average of 19% for all occupations.
- 14% are self-employed, compared to an average of 17% for all occupations.
- 62% are women, well above the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 6.3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for professional occupations.
- the average earnings are among the lowest for professional occupations but are comparable to those for other occupations in the art, culture, recreation and sport sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Corporations and government may tend to contract out much of the routine public relations work in the future. This will be made easier by computer and telecommunications technologies which allow free lancers to work off-site.
- Employment requirements for this occupation are expected to increase across a broad range of industries through 2004, with much of the increase in the business services industry.

Earnings



Overall Average for All Ages (15+)

40 500	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

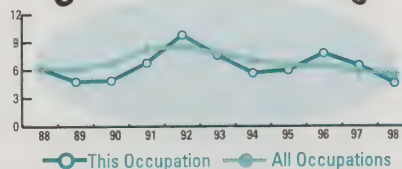
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



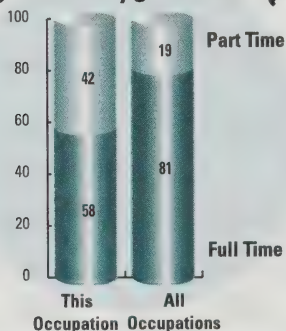
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Creative and Performing Artists

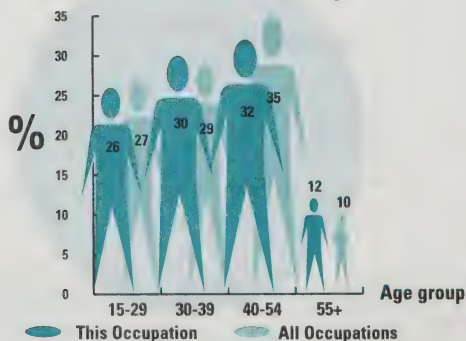
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for film production, radio and television companies and stations; broadcasting departments; sound recording studios; record production, ballet and dance companies; symphony orchestras; bands; choirs; night clubs; dance academies; and private acting and dance schools. Many are self-employed.

- Film, television and radio producers manage the production of motion pictures, television shows and radio programs.
- Directors interpret scripts, select casts and direct performers and other aspects of productions.
- Record producers plan and coordinate musical recordings.
- Directors of photography plan and coordinate the photography of motion pictures.
- Conductors select and interpret musical works, and lead bands, orchestras and choirs.
- Arrangers adapt and modify musical compositions to convey desired themes.
- Musicians play one or more instruments.
- Singers sing musical arrangements.
- Actors perform roles in motion picture, television and radio productions.
- Painters, sculptors and other visual artists create original paintings, drawings, sculptures, engravings and other art works.

Education, Training & Experience

- People in this group usually have a university degree, college diploma or other post-secondary specialized training in their area of work. Many recent entrants have an undergraduate university degree or a community college diploma.
- They may require experience and be able to demonstrate directing, creative or performing skills.

In These Occupations...

- 82,000 people were employed in 1998, an increase of 36.4% from 1988. Most of the growth occurred from 1993 to 1998, when employment increased 30.4%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

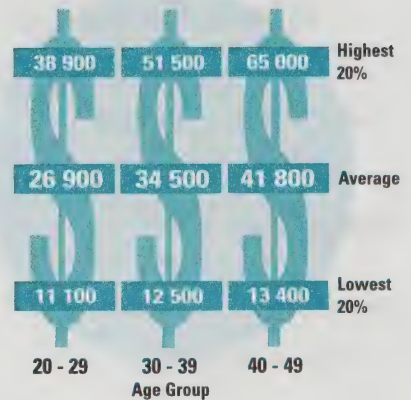
**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

- 40% are musicians and singers; 22% are producers, directors, choreographers and related artists; and 18% are painters and other visual artists.
- 42% work part-time, well above the average of 19% for all occupations.
- 68% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 49% are women, compared to the average of 45% for all occupations.
- the unemployment rate averaged 5.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for professional occupations.
- the average earnings are among the lowest for professional occupations but are comparable to those for other occupations in the art, culture, recreation and sport sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Continued government spending restrictions in the cultural sector are likely to affect these occupations unfavourably. However, with the increased number of television channels, prospects for performing artists may be relatively favourable, as these channels will need to provide content. The continuing ability of Canada to attract foreign production will also have a favourable effect on prospects for performing artists.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the amusement and recreation services industry.

Earnings



Overall Average for All Ages (15+)

38 300

This Occupation

37 400

All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

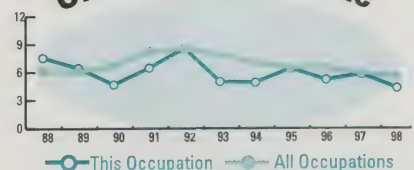
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



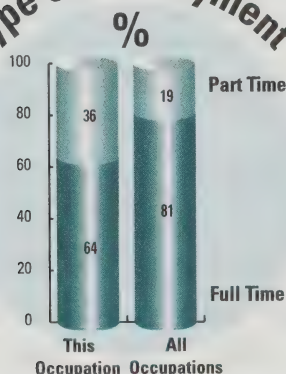
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Technical Occupations in Libraries, Archives, Museums and Galleries

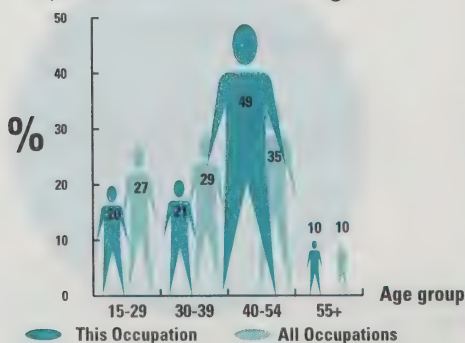
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group are employed by libraries, schools, archives and organizations with library and archive services, museums, galleries and retail organizations. They may specialize in a specific type of collection.

- Library and archive technicians and assistants help users get information from library and archive resources, assist librarians and archivists in cataloguing new acquisitions and conduct reference searches.
- Conservation and restoration technicians assist conservators to preserve and restore artifacts.
- Curatorial assistants help research, handle and store artifacts.
- Museum guides and interpreters conduct museum and gallery tours of exhibitions.
- Museum registrars and cataloguers classify and register artifacts and supervise inventory control.
- Preparators construct displays and dioramas, and prepare artifacts for storage or shipping.
- Picture framers fabricate custom frames and mount paintings and other art work.

This occupational group also includes reference and circulation assistants.

Education, Training & Experience

- People in this group usually need a post-secondary qualification and specialized training. In some cases, appropriate work experience may serve as a substitute for academic qualifications. Many recent entrants have a community college diploma or an undergraduate university degree.
- Most require a college program in museum studies or conservation technology or other technical or on-the-job training programs.
- Library and archive technicians and assistants usually require a college library technician diploma or a university degree in a social science discipline.
- Registrars and cataloguers may require a university degree in a field related to museum and gallery work.

In These Occupations...

- 16,000 people were employed in 1998, an increase of 4.1% from 1988. However, after rising 7.4% over the 1988 to 1993

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

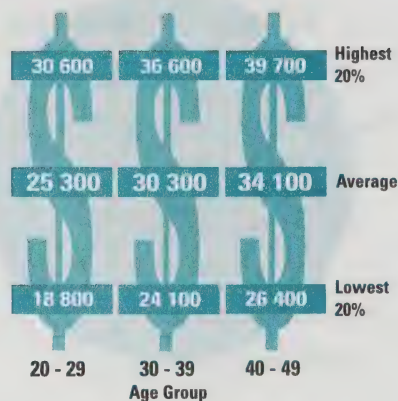
period, employment decreased 3.1% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

- 78% are library and archive technicians and assistants and 22% work in technical occupations related to museums and galleries.
- 36% work part-time, well above the average of 19% for all occupations.
- 4% are self-employed, well below the average of 17% for all occupations.
- 79% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 4.7% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for technical, paraprofessional and skilled occupations and for occupations in the art, culture, recreation and sport sectors.
- employment changes tend to mirror movements in overall economic activity.

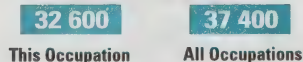
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels for all occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Technological change, in particular access to the Internet for a growing segment of the population, will lead to restructuring of library operations, providing easy access to a broadened range of reference materials. As a result, library and archival technicians will increasingly use computerized cataloguing and data retrieval systems.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in education.

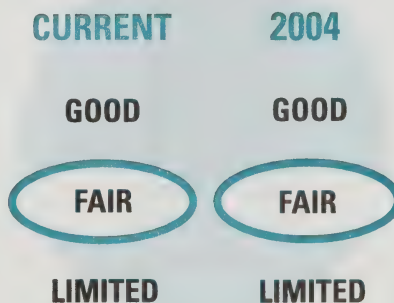
Earnings



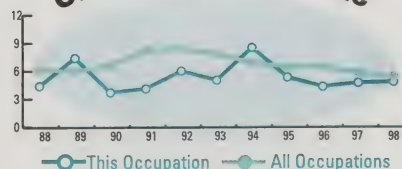
Overall Average for All Ages (15+)



Work Prospects



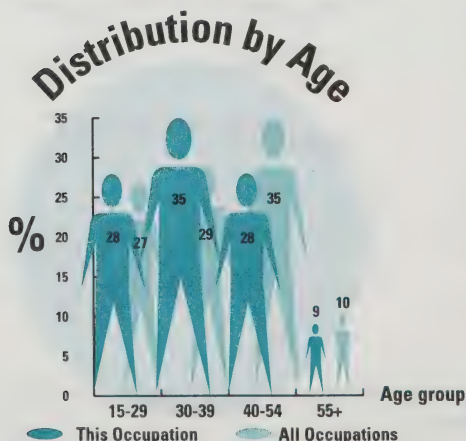
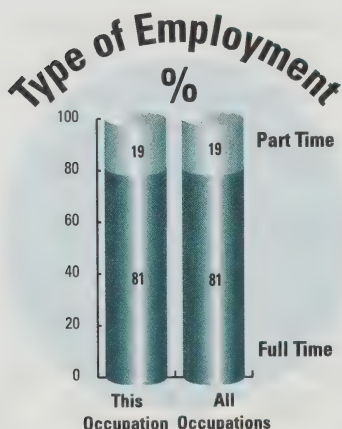
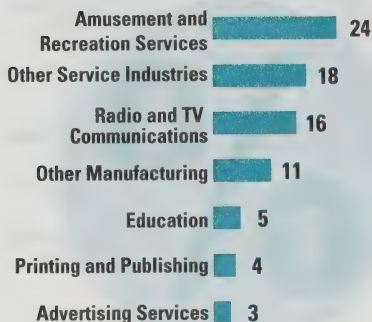
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Photographers, Graphics Arts Technicians and Technical Occupations in Motion Pictures, Broadcasting and the Performing Arts

Where They Work



At Work

These people work for photographic studios; government; radio and television stations; and film, video, sound recording, theatre, publishing, advertising and printing companies. They may also be self-employed.

- Photographers photograph people and other subjects. They may specialize in a particular area such as portrait or scientific photography.
- Film and video camera operators record news and live events, and film videos and television broadcasts.
- Graphic arts technicians produce and assemble artwork, photographs and lettering and prepare designs for camera-ready printing.
- Audio and video recording technicians record, mix and edit sound, music and videotape for films, television, radio, videos, recordings and live events.

This occupational group also includes floor directors, lighting technicians, stunt coordinators, special effects technicians, make-up artists, wardrobe supervisors, motion picture projectionists, set dressers and stagehands.

Education, Training & Experience

- People in this group usually need a high school diploma. Most require a college diploma, university degree or specialized training and experience in their area of work.
- They may substitute on-the-job training for formal education requirements.
- Projectionists need a provincial licence.

In These Occupations...

- 36,000 people were employed in 1998, an increase of 24.1% from 1988. After declining 2.3% over the 1988 to 1993 period, employment increased 27.0% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 26% are photographers; 17% are audio and video recording technicians; and 16% are graphic arts technicians.
- 19% are part-time, equal to the average for all occupations.
- 43% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers

**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

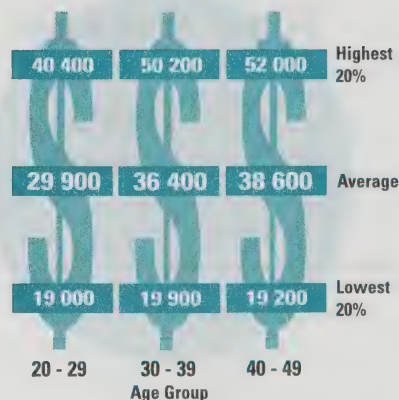
in these occupations has increased significantly over the last ten years.

- 24% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 6.3% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the art, culture, recreation and sport sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The introduction of laser technology and digital photography will result in many photographers and graphic arts technicians using computer work stations.
- Areas of increasing demand for technicians include specialization in video editing, digital sound mixing and special optical effects.

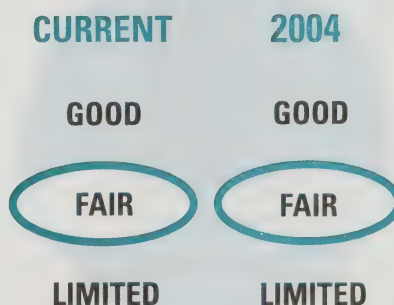
Earnings



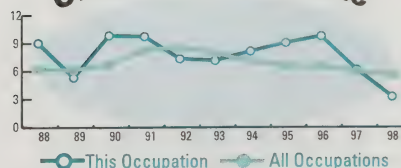
Overall Average for All Ages (15+)

35 300	37 400
This Occupation	All Occupations

Work Prospects



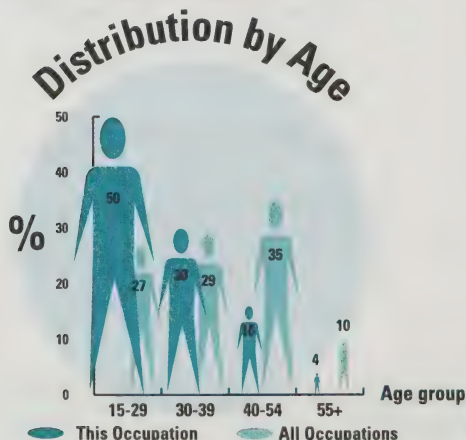
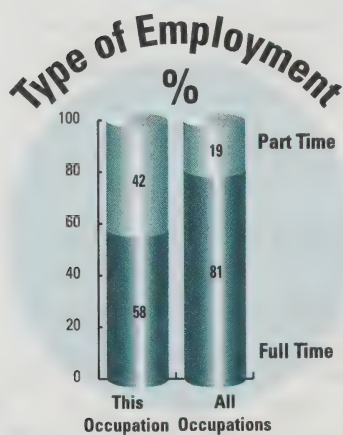
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Announcers and Other Performers

Where They Work



At Work

People in this group work for radio and television stations and networks, circuses and nightclubs, and for theatre, advertising and other production companies. They may also be self-employed.

- Announcers and other broadcasters read the news, sports, weather and commercial messages, and host entertainment and information programs for broadcast on radio or television. They may specialize in areas such as news, sports, weather or traffic reporting, and present their own material or material prepared by others.
- Circus performers such as trapeze artists, high-wire walkers, clowns and jugglers entertain audiences at circuses.
- Buskers entertain passers-by on sidewalks, and in malls and other areas with magic tricks, juggling acts, short dramatic works and other entertainment activities.
- Magicians and illusionists perform sleight-of-hand and other tricks to entertain audiences.
- Models display clothing and other merchandise in commercials, advertisements and fashion shows. They also pose for photographers and artists.
- Puppeteers operate puppets and marionettes.

This occupational group also includes disk jockeys, radio hosts, talk show hosts, traffic and weather reporters, and acrobats and ventriloquists.

Education, Training & Experience

- People in this group may require a high school diploma. Many recent entrants have a community college diploma.
- They usually have to demonstrate talent and ability at auditions.
- Announcers and other broadcasters usually need a college radio or television arts diploma and may require training and experience. Announcers need specialized voice training.
- Circus performers and acrobats may need to study at a circus school.
- Models usually require modelling courses.
- Many performers acquire their training under the guidance of another performer.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

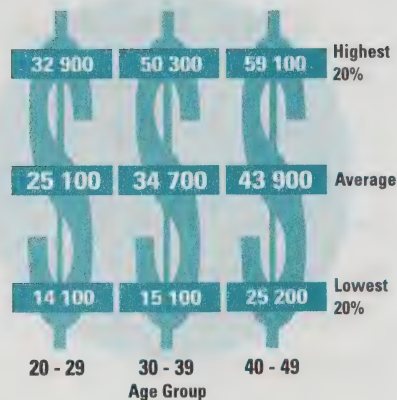
In These Occupations...

- 11,000 people were employed in 1998, a decrease of 2.2% from 1988. However, after declining 3.4% over the 1988 to 1993 period, employment increased 1.2% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 69% are announcers and broadcasters.
- 42% work part-time, well above the average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the last ten years.
- 30% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 35% are women, compared to an average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 6.6% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the art, culture, recreation and sport sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, the outlook is expected to weaken to "Limited", as the number of qualified job seekers is expected to exceed the number of job openings, due to anticipated employment losses. Retirements are not expected to offset employment losses since the age distribution in these occupations is relatively young.
- Cutbacks at the CBC/SRC and other publicly owned broadcasters have decreased demand for announcers. The best opportunities are expected to be in private television channels.

Earnings



Overall Average for All Ages (15+)

39 200	37 400
This Occupation	All Occupations

Work Prospects

CURRENT 2004

GOOD

GOOD

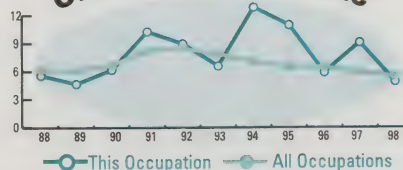
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



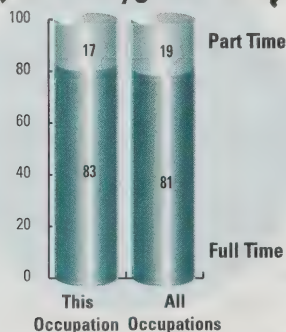
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Creative Designers and Craftspersons

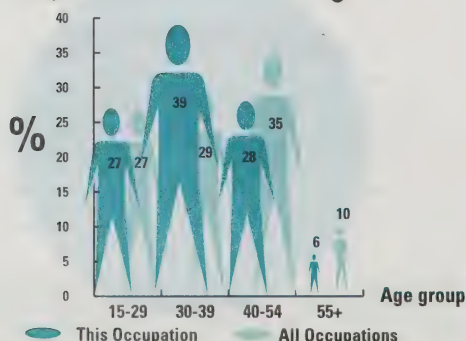
Where They Work



Type of Employment %



Distribution by Age



At Work

People in this group work for graphic design, advertising, architectural and interior design firms; retail organizations; performing arts, broadcasting, clothing and textile companies; museums; private studios; and other organizations. They may also be self-employed.

- Graphic designers conceptualize and produce designs, illustrations, layouts and visual images for publications, advertising, films, posters and signs.
- Interior designers conceptualize and produce designs for interior spaces in residential, commercial and other buildings.
- Theatre designers conceptualize and produce designs for sets, costumes and lighting, fashion designers for clothing and accessories.
- Exhibit designers produce designs for museums, trade shows and retail spaces.
- Artisans and craftspersons produce wood, stone and other carvings; blown-glass objects; pottery; stained glass items; stringed instruments; and other products.
- Pattern makers create master patterns for garments, footwear and other textile, leather and fur products.

Education, Training & Experience

- People in this group usually need a high school diploma. Most recent entrants have a community college diploma or an undergraduate university degree.
- Designers usually require a college diploma, university degree or other training program, and a portfolio of work that demonstrates creative ability.
- Interior designers may require registration with a provincial association.
- Pattern makers require college courses in design and pattern-making courses or on-the-job training. They may require computer-assisted pattern-making courses.
- Artisans and craftspersons may not require any high school education. Rather, they may learn skills through apprenticeship with a master craftsperson.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

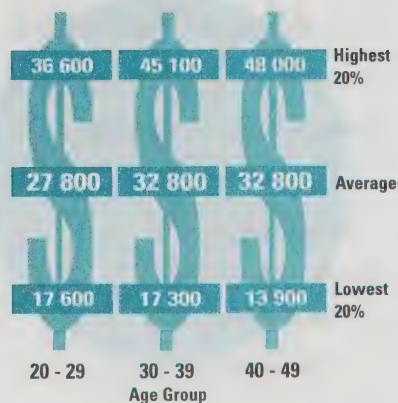
In These Occupations...

- 73,000 people were employed in 1998, an increase of 45.7% from 1988. Most of the growth occurred from 1993 to 1998, when employment increased 39.7%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 49% are graphic designers and illustrating artists and 25% are artisans and craftspersons.
- 17% work part-time, compared to an average of 19% for all occupations.
- 44% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 51% are women, compared to an average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 4.7% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for technical, paraprofessional and skilled occupations and for occupations in the art, culture, recreation and sport sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are above average and earnings are below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- More and more, people in these occupations will rely on computers to present concepts to clients, produce final designs and manage projects.
- Employment requirements for these occupations are expected to increase across a broad range of industries through 2004, with much of the increase in business services and advertising services.

Earnings



Overall Average for All Ages (15+)

30 700	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

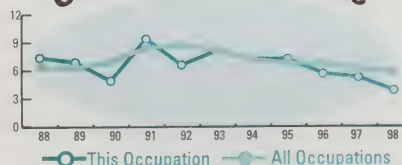
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Graphic Designers and Illustrating Artists

Where They Work



At Work

People in this occupation work for advertising and graphic design firms and other organizations with advertising departments. Graphic designers and illustrating artists may also be self-employed. Their duties may require them to:

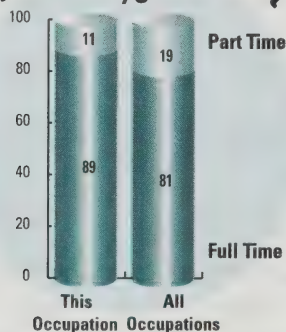
- consult with clients to establish the nature and content of designs and illustrations for reproduction;
- determine the best medium to produce the desired effect, and the method of reproduction;
- prepare sketches, photographs and illustrations;
- work by hand or with computerized graphic programs;
- prepare specifications and estimate the cost of materials and the time to complete graphic designs or illustrations; and
- produce final designs and illustrations or supervise the work of other graphic designers, illustrators and graphic arts technicians.

This occupation also includes animators, medical and scientific illustrators, commercial artists, advertising and layout designers, page designers and title artists.

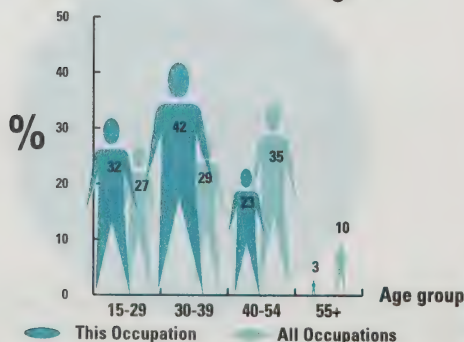
Education, Training & Experience

- People in this occupation must have a high school diploma and creative ability as demonstrated by a portfolio of work. Most recent entrants have a community college diploma or some other post-secondary diploma or degree.
- They usually must complete a university degree in visual arts with a specialization in graphic arts, commercial art or photography, or a college or other program in graphic arts or commercial art.
- They may require experience as graphic arts technicians, which could replace formal education after high school.
- With experience, they may progress to management positions such as advertising manager.

Type of Employment



Distribution by Age



Check out the 'big picture' in
"World of Work: Overviews and Trends"

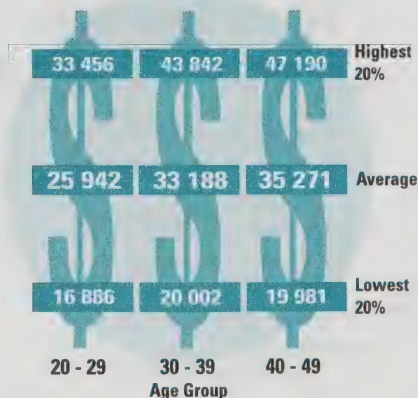
In These Occupations...

- 36,000 people were employed in 1998, an increase of 72.9% from 1988. Most of the growth occurred from 1993 to 1998 when employment increased 58.0%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 11% work part-time, compared to an average of 19% for all occupations.
- 32% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 40% are women, compared to an average of 45% for all occupations.
- the unemployment rate averaged 4.4% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the art, culture, recreation and sport sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", as employment opportunities are above average and earnings are at the average level.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- People in this occupation increasingly use computerized page layout and graphic design systems in their work. Multimedia presentations and animated graphics are two types of work made far easier by computers.
- Web site design may offer good opportunities for graphic designers and illustrators, especially those with multimedia skills.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the advertising services, printing and publishing and business services industries.

Earnings



Overall Average for All Ages (15+)

31 995	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

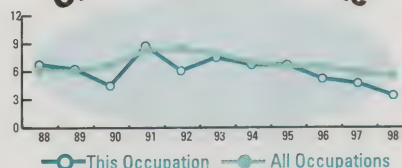
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



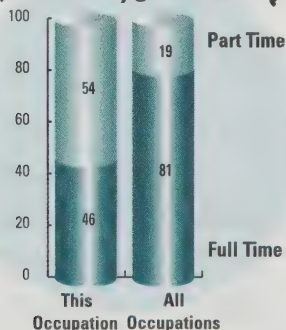
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Athletes, Coaches, Referees and Related Occupations

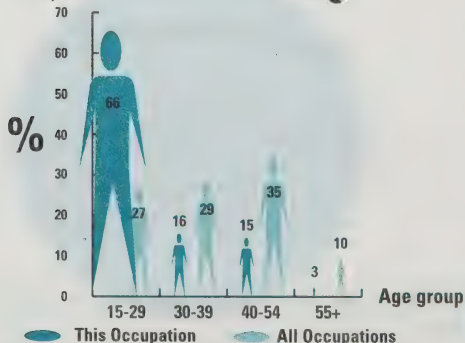
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for professional team organizations; amateur sports teams; sporting commissions, organizations and leagues; community centres; universities; sports and fitness clubs; and similar facilities. They may also be self-employed.

- Athletes participate in competitive sports events on an amateur or professional basis. They play team sports such as hockey, baseball and football, or compete in individual sports such as figure skating, track and field and boxing.
- Coaches prepare and train individual athletes and teams for competitive events.
- Sports scouts identify and recruit athletes for professional sports teams.
- Sports officials and referees observe and enforce rules governing sporting events, athletic games and sports competitions.
- Program leaders and instructors in recreation and sport plan and coordinate recreational, sports, fitness and athletic programs for individuals and groups.

Education, Training & Experience

- People in this group usually require ability, experience and technical knowledge of their area of sport. Many recent entrants have a high school diploma.
- Athletes need extensive training under a coach's supervision and may require certification with a particular sports federation.
- Coaches usually need to complete the national coaching certificate program and have technical knowledge of the sport.
- Sports officials require certification and registration with a sport governing agency or commission.
- Referees must complete an officiating program from a sport governing agency.
- Program leaders and instructors usually need a high school diploma as well as a college diploma in recreation or physical education, or extensive experience in a specific recreational or sports program. They usually require certificates such as a swimming instructor's certificate for particular recreational activities.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

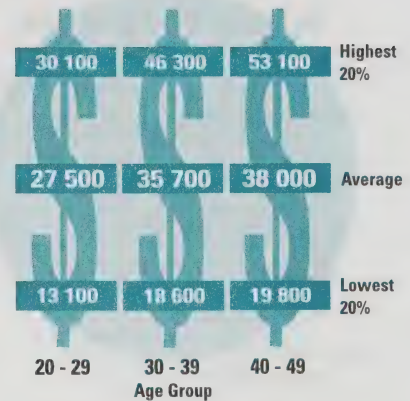
In These Occupations...

- 71,000 people were employed in 1998, an increase of 36.9% from 1988. After employment gains of 13.9% from 1988 to 1993, employment grew 20.2% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 81% are program leaders and instructors in recreation and sport.
- 54% work part-time, well above the average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the last ten years.
- 14% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 59% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 9.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations and for occupations in art, culture, recreation and sport.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the art, culture, recreation and sport sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, the outlook is expected to weaken to "Limited". A large influx of recent graduates looking for work in these occupations is expected to lead to rapid growth in the number of qualified job seekers. As a result, despite significant growth in employment opportunities, the number of job seekers is expected to exceed the number of job openings.
- Employment in these occupations will be affected by federal and provincial government spending restrictions on aid to sports organizations.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the amusement and recreation services industry.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

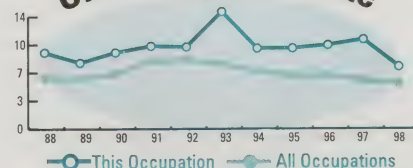
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



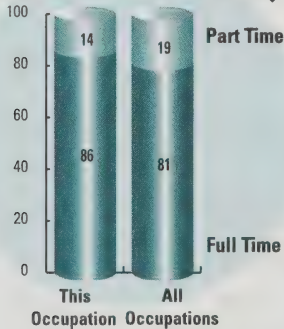
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Sales and Service Supervisors

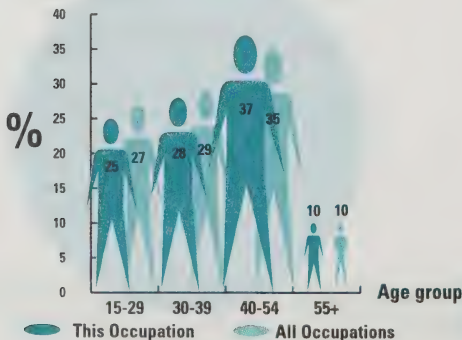
Where They Work



Type of Employment



Distribution by Age



At Work

These people work in retail organizations, telephone and door-to-door sales, hospitals and other health care institutions, cafeterias, catering companies and other food service facilities, dry cleaners, laundries, hotels, schools, cleaning companies, office buildings and other service organizations in the private sector and government. Their duties may require them to:

- supervise, coordinate and schedule activities of staff;
- establish and implement procedures;
- coordinate work with that of other departments;
- estimate and order materials and supplies;
- monitor quality and production levels;
- resolve work-related problems and prepare and submit budget, progress and other reports;
- maintain inventory and records; and
- hire and train staff.

This occupational group also includes dry cleaning, laundry and cleaning supervisors; executive housekeepers; and supervisors of workers such as hotel clerks, theatre ushers and attendants, reservation clerks, commissionaires and sport and recreation club workers.

Education, Training & Experience

- People in this group usually need a high school diploma and previous experience in their area of work. Many recent entrants have a high school diploma.
- Food service supervisors require a college diploma in food service administration, hotel and restaurant management or a related discipline, or several years' experience in food preparation and service.
- Executive housekeepers usually require a college diploma or university degree in hospital or hotel management or business administration. They may substitute extensive experience as a cleaning supervisor for educational requirements.

**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

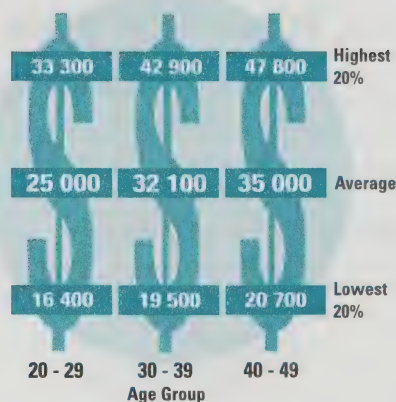
In These Occupations...

- 114,000 people were employed in 1998, an increase of 29.6% from 1988. After employment gains of 17.5% from 1988 to 1993, employment growth slowed to 10.3% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 50% are retail trade supervisors; 19% are food service supervisors; and 14% are cleaning supervisors.
- 14% work part-time, compared to an average of 19% for all occupations.
- 27% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 51% are women, compared to an average of 45% for all occupations.
- the unemployment rate averaged 4.1% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for technical, paraprofessional and skilled occupations but are comparable to those for other occupations in the sales and service sectors.

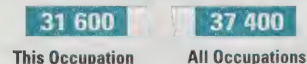
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average, although earnings are below average.
- Over the next five years, the outlook is expected to improve to "Good". The number of job openings is expected to increase more rapidly than the number of qualified job seekers, due to strong employment growth and high retirement rates for sales and service supervisors.
- The widespread use of computerized inventory control and order-entry systems will require these supervisors to upgrade their skills.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the retail trade and accommodation and food services industries.

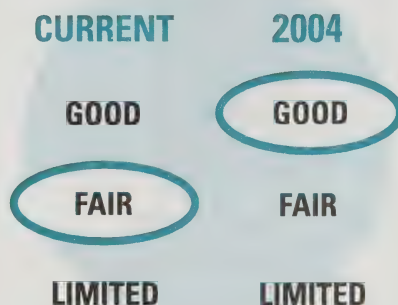
Earnings



Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



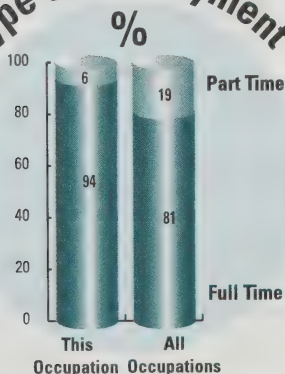
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Technical Sales Specialists, Wholesale Trade

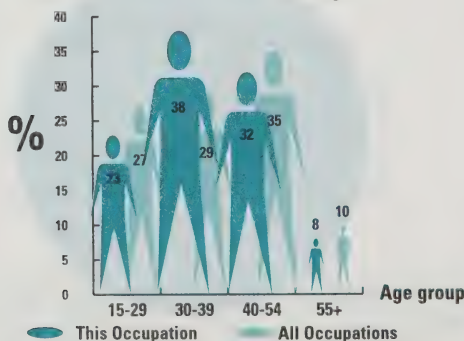
Where They Work



Type of Employment



Distribution by Age



At Work

Technical sales specialists work for wholesalers, pharmaceutical companies, industrial equipment manufacturing companies, computer services and engineering firms, hydro-electric companies, and other organizations that produce and provide technical goods and services. They may specialize in selling scientific and industrial products, telecommunication and computer services and other particular products or services. Their job duties may require them to:

- promote sales to existing clients, and identify and solicit potential clients;
- assess the needs and resources of clients and recommend appropriate goods and services;
- provide input into product design where goods or services must meet clients' specific needs;
- develop reports and proposals and deliver presentations;
- estimate costs of installation and maintenance of equipment and service; and
- prepare and administer sales contracts.

This occupation also includes representatives in sales of aircraft, communication equipment, construction equipment, heavy duty equipment, electricity and medical instrumentation.

Education, Training & Experience

- Technical specialists require a high school diploma. Most recent entrants have a community college diploma or an undergraduate university degree.
- They may need experience in sales or in a technical occupation related to the product and service they sell.
- Technical sales supervisors need experience as a technical sales specialist.
- With additional training or experience, they may move into sales management positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

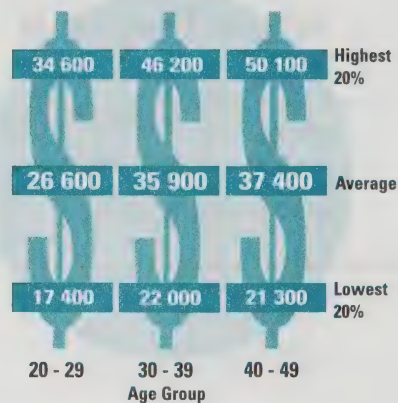
In These Occupations...

- 92,000 people were employed in 1998, an increase of 49.8% from 1988. Most of the growth occurred from 1993 to 1998, when employment increased 30.0%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 6% work part-time, well below the average of 19% for all occupations.
- 21% are self-employed, compared to an average of 17% for all occupations.
- 21% are women, well below the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 3.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the sales and service sectors.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the sales and service sectors.

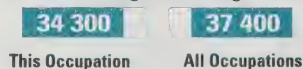
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Rapid technological change means those working in these occupation must stay abreast of ever-changing product lines available on the market. Increasingly, these representatives will need to use electronic data banks to retrieve information for their customers.
- Employment requirements for these occupations are expected to increase across a broad range of industries through 2004, with much of the increase in the wholesale trade and business services industries.

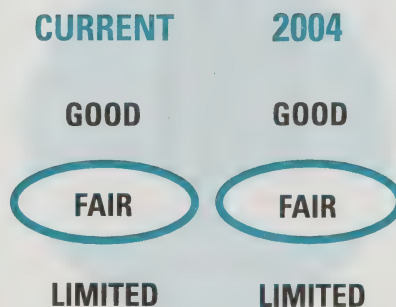
Earnings



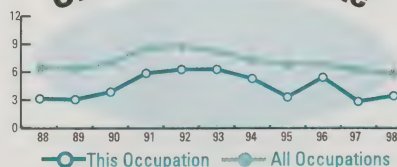
Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



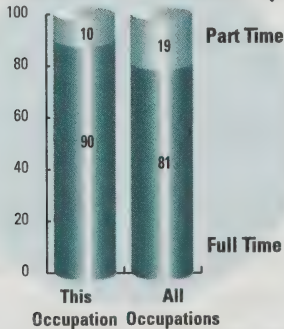
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Insurance and Real Estate Sales Occupations and Buyers

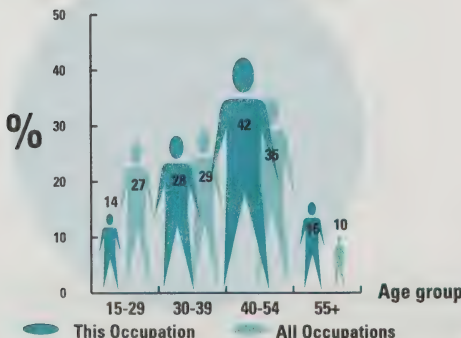
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for insurance companies and brokerage firms, real estate companies, retail and wholesale organizations and licensed grain elevator companies.

- Insurance agents and brokers sell automobile, fire, life, property, marine, aircraft and other types of insurance to businesses and individuals.
- Real estate agents and salespersons act as agents for the sale and purchase of houses, apartments, commercial buildings, land and other real estate. They may rent and lease properties on behalf of clients.
- Retail and wholesale buyers purchase merchandise for resale by retail and wholesale organizations, and are usually responsible for the merchandising operations of retail organizations. They may specialize in particular merchandise lines.
- Grain elevator operators purchase grain from farmers; determine the grade, quality and weight of grain delivered; and maintain records for farmers, companies and the Canadian Wheat Board.

This occupational group also includes real estate brokers, chief and senior buyers, merchandisers, and assistant and district grain elevator managers.

Education, Training & Experience

- People in this group require a high school diploma. Most recent entrants have a community college diploma or an undergraduate university degree.
- Insurance brokers require step licensing. They can also receive professional recognition as a member of the Insurance Brokers Association of Canada, by completing educational programs such as the Canadian Accredited Insurance Broker and Canadian Certified Insurance Broker programs.
- They usually require college, university or specialized training in their area of work.
- Real estate practitioners must have a licence.
- Grain elevator operators require several years' experience working in a grain elevator and may require a pesticide licence. They receive on-the-job training.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

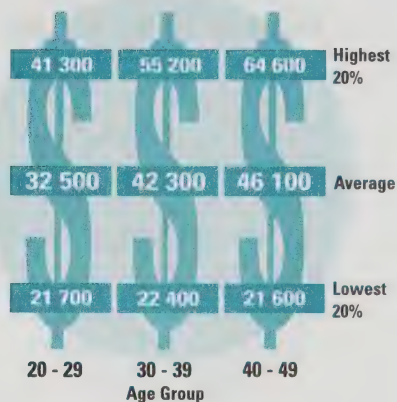
In These Occupations...

- 162,000 people were employed in 1998, an increase of 12.4% from 1988. However, after rising 16.7% over the 1988 to 1993 period, employment decreased 3.6% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 42% are real estate agents and salespersons; 40% are insurance agents and brokers; and 16% are retail and wholesale buyers.
- 11% work part-time, compared to an average of 19% for all occupations.
- 45% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 45% are women, equal to the average for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 2.0% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the sales and service sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the sales and service sectors.

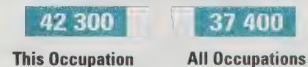
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above the average levels for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Increasing use of computer-based technologies will affect the work and skill requirements for people employed in all of these occupations.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the finance, insurance and real estate industry.

Earnings



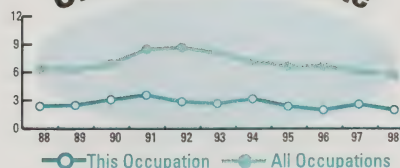
Overall Average for All Ages (15+)



Work Prospects



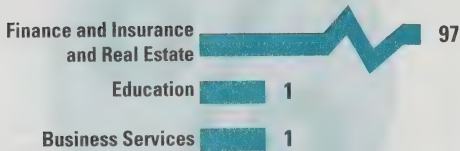
Unemployment Rate



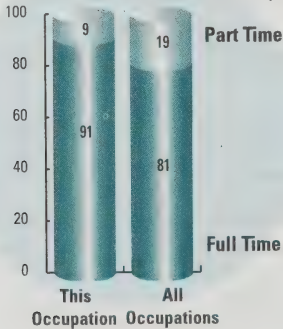
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Insurance Agents and Brokers

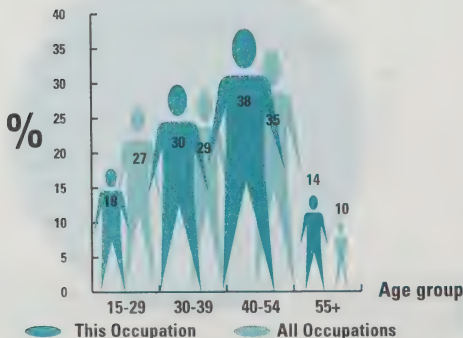
Where They Work



Type of Employment



Distribution by Age



At Work

Insurance agents work for individual insurance companies to sell that company's products to clients. Insurance brokers work for brokerage firms and find appropriate insurance products through several insurance companies on behalf of clients. Their duties may require them to:

- sell automobile, fire, health, life, property, marine, aircraft and other types of insurance to clients;
- establish clients' insurance coverage, premiums and methods of payment;
- provide information on group and individual insurance packages such as risk coverage, benefits and other policy features;
- ensure that clients provide the appropriate forms, medical examinations and other policy requirements; and
- respond to clients' questions when claims are made.

Education, Training & Experience

- People in this occupation must complete high school, on-the-job training and industry-sponsored courses and training programs. Most recent entrants have a community college diploma or an undergraduate university degree.
- Insurance brokers require step licensing.
- They can also receive professional recognition as a member of the Insurance Brokers Association of Canada, by completing educational programs such as the Canadian Accredited Insurance Broker and Canadian Certified Insurance Broker programs.
- With experience, they may progress to insurance management positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

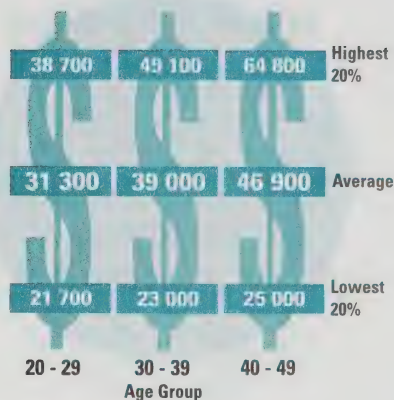
In These Occupations...

- 66,000 people were employed in 1998, an increase of 22.2% from 1988. After employment gains of 21.6% from 1988 to 1993, employment growth slowed to 0.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 9% work part-time, well below the average of 19% for all occupations.
- 36% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 47% are women, compared to an average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 2% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the sales and service sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both well above the average levels for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Expert systems will be used increasingly in the insurance industry, and computerized telecommunications will link brokerages to insurance firms. Insurance agents and brokers will need to develop strong computer skills to exploit these technologies.
- Almost all of the increase in employment requirements through 2004 for this occupation is expected to occur in the finance, insurance and real estate industry.

Earnings



Overall Average for All Ages (15+)



Work Prospects



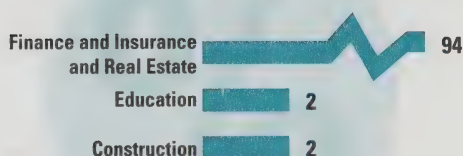
Unemployment Rate



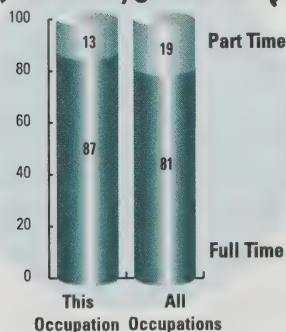
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Real Estate Agents and Salespersons

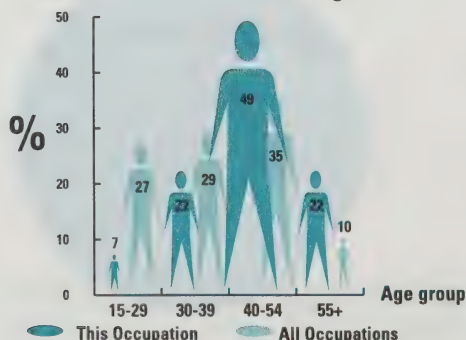
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupation work in the real estate industry, normally on a commission basis. Their duties may require them to:

- assist individuals and companies in the sale and purchase of houses, apartments, commercial buildings, land and other real estate;
- solicit property listings from prospective sellers;
- assist sellers by establishing the asking price, advertising the property, marketing the property and conducting open houses for prospective buyers;
- assist buyers in selecting, visiting, inspecting and making offers to purchase real estate;
- advise sellers and buyers on market conditions, prices, mortgages, legal requirements and related matters;
- draw up sales agreements for approval by sellers and buyers; and
- rent or lease properties on behalf of clients.

Education, Training & Experience

- People in this occupation must complete high school and a real estate training course. Most recent entrants have a community college diploma or undergraduate university degree.
- They require a provincial licence in their province.
- They may operate independently by obtaining a broker's licence according to the regulations in their province. A broker's licence is necessary to become a real estate manager.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

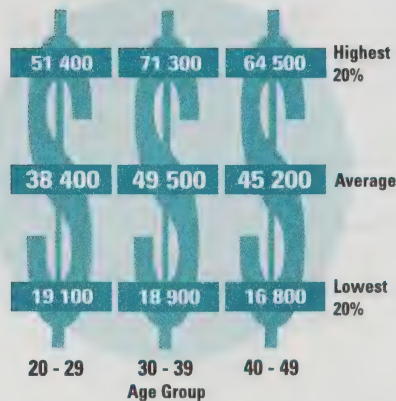
In These Occupations...

- 68,000 people were employed in 1998, a decrease of 1.7% from 1988. After rising 8.9% over the 1988 to 1993 period, employment decreased 9.7% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 13% work part-time, compared to an average of 19% for all occupations.
- 63% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 45% are women, equal to the average for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 0.5% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the sales and service sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both well above the average levels for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Computer-based technologies will become increasingly common in this field. For example, laptop computers linked to the central office will be used to show properties to clients. Real estate agents and salespersons will need to develop the skills required by these technologies.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the finance, insurance and real estate industry.

Earnings



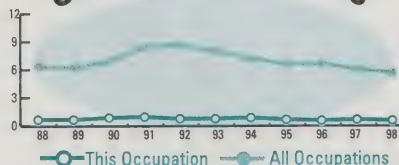
Overall Average for All Ages (15+)

42 900	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



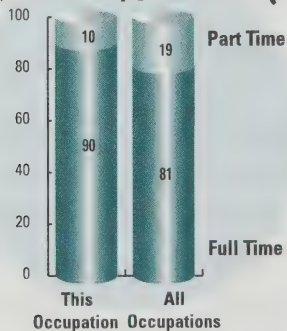
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Retail and Wholesale Buyers

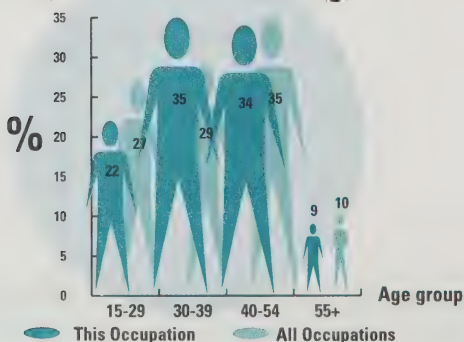
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupation work for retail and wholesale organizations. Their duties may require them to:

- purchase merchandise from suppliers such as manufacturers, importers and brokers for sale in retail and wholesale organizations;
- review requirements of their organizations and determine the quantity and type of merchandise to purchase;
- study market reports, trade periodicals and sales promotion materials and visit trade shows, showrooms, factories and product design events;
- establish and maintain contact with suppliers and negotiate prices, discounts, credit terms and transportation arrangements with them;
- oversee distribution of merchandise to outlets and maintain stock levels; and
- supervise the work of other buyers.

Education, Training & Experience

- People in this occupation usually must complete high school and have a university degree or college diploma in business, marketing or a related program. Many recent entrants have a community college diploma or an undergraduate university degree.
- They must have experience as sales supervisors or sales representatives.
- Supervisors and senior buyers must have experience.
- They may specialize in a particular merchandise line through experience or product-based training courses.
- With additional experience or training, they may progress to managerial positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

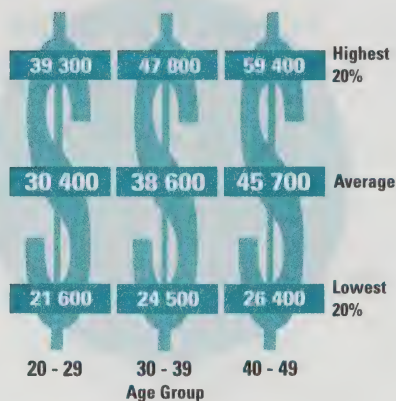
In These Occupations...

- 26,000 people were employed in 1998, an increase of 36.1% from 1988. After employment gains of 27.7% from 1988 to 1993, employment growth slowed to 6.6% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the last ten years and 8.2% over the last five years.
- 10% work part-time, compared to an average of 19% for all occupations.
- 24% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in this occupation has increased significantly over the last ten years.
- 46% are women, compared to an average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 5.6% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities are average and earnings are well above the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Buyers will increasingly use computerized inventory systems to track the sales of various items and computerized ordering systems to place orders with their suppliers. Buyers will need to develop the appropriate computer skills.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the wholesale trade and retail trade industries.

Earnings



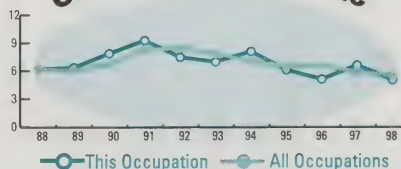
Overall Average for All Ages (15+)

39 600	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



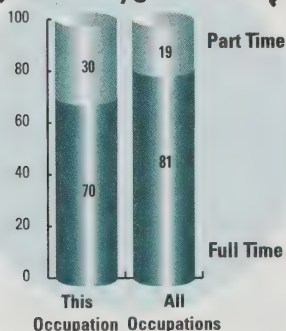
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Chefs and Cooks

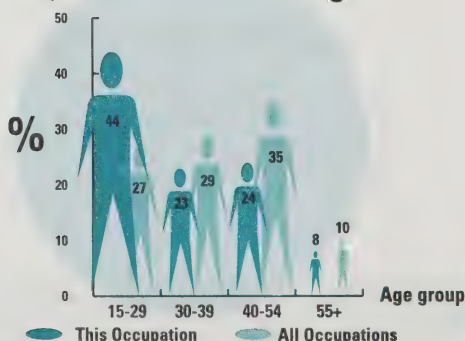
Where They Work



Type of Employment



Distribution by Age



At Work

Chefs and cooks work in restaurants, hotels, hospitals, educational institutions, central food commissaries, ships, construction and logging camps and other organizations.

- Executive chefs direct food preparation in one or more restaurant chains and other establishments. They plan menus, hire and supervise chefs and cooks and may prepare meals.
- Executive sous-chefs supervise chefs, cooks, specialist chefs and other kitchen workers. They may plan menus and prepare meals.
- Working chefs prepare meals or specialize in pastry, sauces, salads, meats and other foods. They may also supervise kitchen staff and plan menus.
- Cooks prepare a variety of foods, including short orders, and supervise kitchen workers. They may plan menus and specialize in ethnic cuisine or speciality dishes.

Education, Training & Experience

- People in this group usually complete high school. Many recent entrants have a high school diploma.
- Cooks complete a three-year apprenticeship or a college or other program in cooking, or have several years' commercial cooking experience.
- Cook trade qualification is available in all provinces except Quebec, the Northwest Territories and the Yukon.
- Supervising chefs, sous-chefs, chefs and working chefs require a chef apprenticeship or formal training abroad or equivalent training and experience.
- Supervisors and administrators usually require several years' experience, including two years' supervisory experience in commercial food preparation and experience as a chef.
- Sous-chefs, working chefs and chefs usually require several years' experience in commercial food preparation.
- The admission certification program for more highly skilled chefs and cooks is administered by the Canadian Culinary Institute through the Canadian Federation of Chefs and Cooks.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

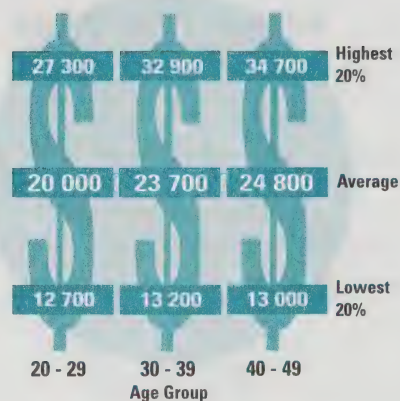
In These Occupations...

- 180,000 people were employed in 1998, an increase of 19.1% from 1988. After employment gains of 6.5% from 1988 to 1993, employment grew 11.8% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 90% are cooks and 10% are chefs.
- 30% work part-time, well above the average of 19% for all occupations.
- 3% are self-employed, well below the average of 17% for all occupations.
- 42% are women, compared to the average of 45% for all occupations.
- the unemployment rate averaged 10.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations and for occupations in the sales and service sectors.
- the average earnings are among the lowest for technical, paraprofessional and skilled occupations and for occupations in the sales and service sectors.

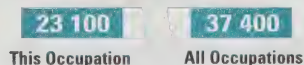
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities and earnings are both well below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- According to the Canadian Federation of Chefs and Cooks, the best trained chefs and cooks are in high demand.
- Increasing computerization in kitchens - for example, for recipe retrieval and inventory control - will require that these workers have appropriate skills.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the accommodation and food services industry.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT 2004

GOOD

GOOD

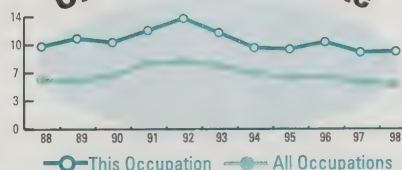
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



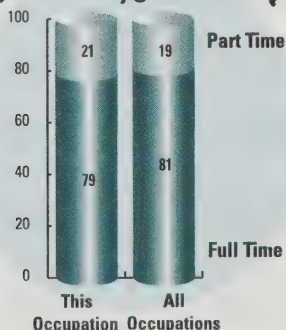
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Butchers and Bakers

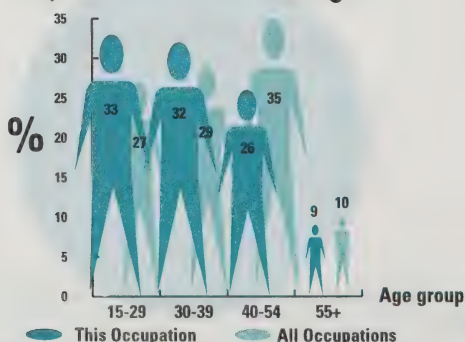
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupational group work in supermarkets, grocery stores, butcher shops, fish stores, bakeries, hotels and restaurants.

- Butchers and meat cutters cut, trim and otherwise prepare and display standard cuts of meat, poultry, fish and shellfish for sale at self-serve counters or directly to customers. They may supervise other butchers and meat cutters and accept customers' payments.
- Bakers prepare and bake bread, rolls, pies, sweet goods, muffins and other items, and frost and decorate cakes. They also purchase supplies, draw up production schedules, hire and train personnel, and may supervise bakery and sales staff.

Education, Training & Experience

- People in this group usually require a high school diploma. Many recent entrants have a high school diploma.
- Butchers and meat cutters may need a college or other program in meat cutting. Food stores usually provide on-the-job training.
- Trade certification for butchers and meat cutters is available, but voluntary, in British Columbia.
- Bakers must usually complete a three- to four-year apprenticeship program or a college or other program for bakers. On-the-job training may be provided.
- Trade certification for bakers is available, but voluntary, in Prince Edward Island, Ontario, Alberta, the Northwest Territories, British Columbia and the Yukon. Qualified bakers may also obtain interprovincial (Red Seal) trade certification for job mobility throughout the country.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

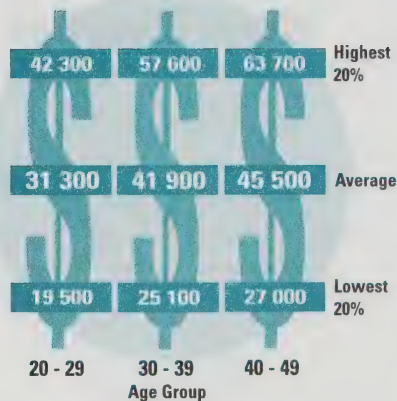
In These Occupations...

- 55,000 people were employed in 1998, an increase of 9.0% from 1988. However, after rising 9.2% over the 1988 to 1993 period, employment decreased 0.2% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 60% are bakers and 40% are retail and wholesale butchers and meatcutters.
- 21% work part-time, compared to an average of 19% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- 5% are self-employed, well below the average of 17% for all occupations.
- 39% are women, compared to an average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 7.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations.
- the average earnings are among the lowest for technical, paraprofessional and skilled occupations but are comparable to those for other occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities and earnings are both well below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Bakers who have completed an apprenticeship program will have better employment opportunities.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the retail trade and accommodation and food services industries.

Earnings



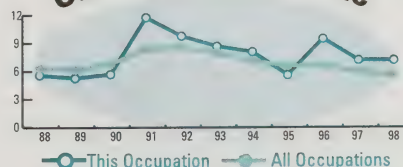
Overall Average for All Ages (15+)

30 200	37 400
This Occupation	All Occupations

Work Prospects

CURRENT	2004
GOOD	GOOD
FAIR	FAIR
LIMITED	LIMITED

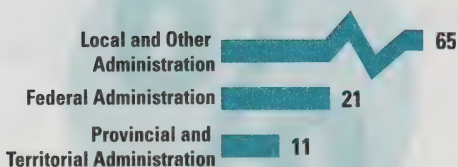
Unemployment Rate



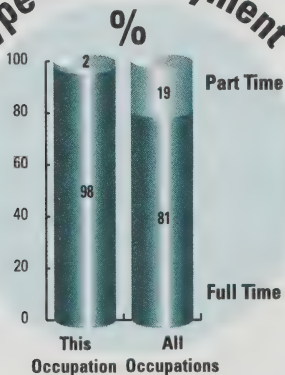
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Police Officers and Firefighters

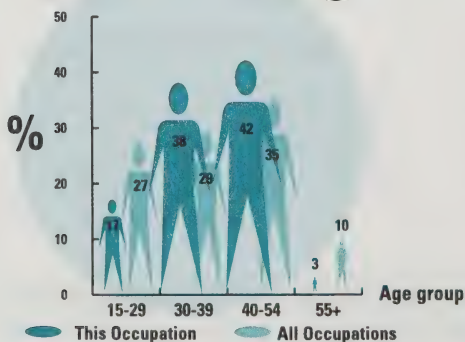
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group are employed by governments, the Canadian Forces and industrial organizations with internal firefighting services.

- Police officers (except commissioned officers) patrol assigned areas to maintain public safety and order and enforce laws and regulations. They investigate crimes and accidents; arrest criminal suspects; and participate in crime prevention, public information, safety programs and other activities. They may supervise and coordinate the work of other police officers.
- Firefighters control and extinguish fires using aerial ladders and hydraulic, manual and other equipment. They rescue victims from burning buildings and industrial, automobile and other accidents, and administer medical aid and other assistance. They also educate the public on fire prevention and monitor prevention through inspections. Fire officers such as captains and lieutenants supervise and coordinate the work of other firefighters.

This occupational group includes municipal, provincial, federal railway and First Nations police as well as municipal, industrial, airport and wild-land firefighters.

Education, Training & Experience

- People in this group must meet physical agility, strength, fitness and vision requirements. Most recent entrants have a community college diploma or an undergraduate university degree.
- Police officers must complete high school and may require a university degree or college program in law and security or the social sciences. Their employers provide a three- to six-month training program. Most recent entrants have a community college diploma or another post-secondary diploma or degree.
- Police detectives and sergeants must have previous experience as constables.
- With additional training and experience, police officers may progress to commissioned police officer positions.
- Firefighters must usually complete high school and may require a college program in fire protection technology or a related field. A firefighter basic training course is usually provided by the employer. Fire officers such as captains and lieutenants must have several years' experience and related training.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- With additional training and experience, firefighters may progress to senior positions such as fire chief.

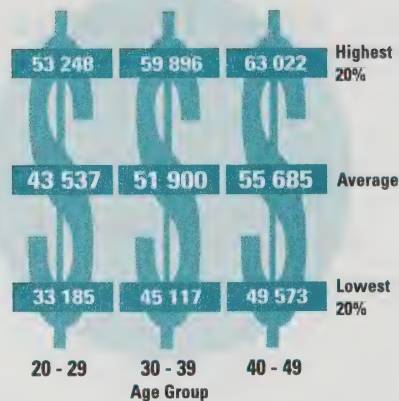
In These Occupations...

- 85,000 people were employed in 1998, an increase of 6.4% from 1988. However, after rising 8.4% over the 1988 to 1993 period, employment decreased 1.9% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 72% are police officers and 28% are firefighters.
- 2% work part-time, well below the average of 19% for all occupations.
- no workers are self-employed, which is well below the average of 17% for all occupations.
- 9% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 1.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the sales and service sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Continuing spending restrictions in the public sector may decrease demand for police officers and firefighters. However, public demands for increased protective services may limit cutbacks in these areas.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in local public administration.

Earnings



Overall Average for All Ages (15+)

52,481	37,400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate

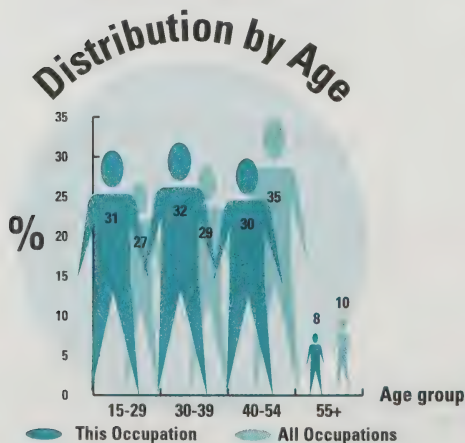
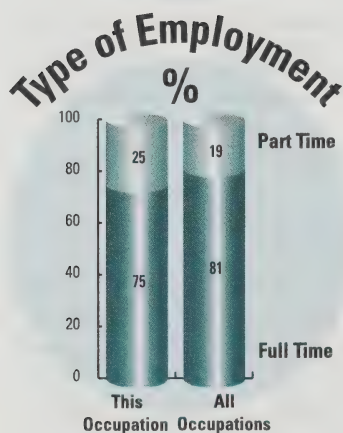


Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Technical Occupations in Personal Service

Where They Work

Personal and Household Services 97



At Work

People in this group usually work in hairstyling salons; barber shops; vocational schools; hair replacement clinics; health care, theatre, film and television companies; and funeral homes.

- Hairstylists style, cut, curl and perm hair and apply other hair and scalp treatments.
- Barbers cut and trim hair, and shave and style beards and moustaches. They may also wave or tint hair and provide other hair and scalp treatments.
- Funeral directors consult with the family of the deceased regarding arrangement and costs of the funeral service and coordinate all aspects of the funeral.
- Embalmers preserve and prepare human bodies for funeral services, including performing cosmetic and restorative work.

Education, Training & Experience

- People in this group must complete at least some high school. Most recent entrants have a trade/vocational certificate.
- Hairstylists usually require a two- to three-year apprenticeship, or a college or other hairstyling program combined with on-the-job training. Certification and licences vary across the country.
- Barbers usually need a two-year apprenticeship or other barber training program. On-the-job training may replace formal education. Certification and licences vary across the country.
- Funeral directors must usually complete high school, take a year of training with a licensed funeral director and pass a qualifying exam. They must have licences in all provinces except Prince Edward Island and British Columbia. They must usually also be licensed as embalmers in all provinces except Prince Edward Island, Saskatchewan and British Columbia.
- Embalmers usually complete high school and a two-year apprenticeship, and pass a qualifying exam. They require licences in all provinces except British Columbia.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

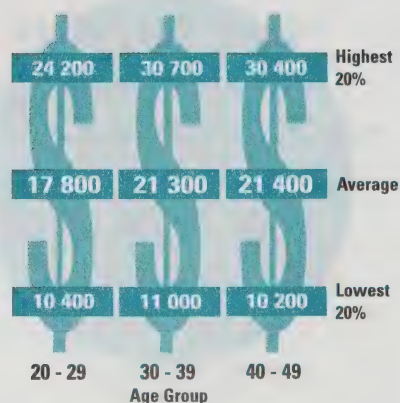
In These Occupations...

- 97,000 people were employed in 1998, an increase of 13.8% from 1988. After declining 1.4% over the 1988 to 1993 period, employment increased 15.4% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 96% are hairstylists and barbers and 4% are funeral directors and embalmers.
- 25% work part-time, compared to an average of 19% for all occupations.
- 48% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 78% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 3.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the sales and service sectors.
- the average earnings are among the lowest for technical, paraprofessional and skilled occupations and for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are well above the average for comparable occupations while earnings are well below the average for all occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- All of the increase in employment requirements through 2004 for these occupations is expected to occur in the personal and household services industry.

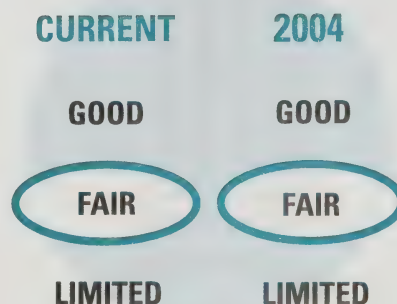
Earnings



Overall Average for All Ages (15+)

20 400	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



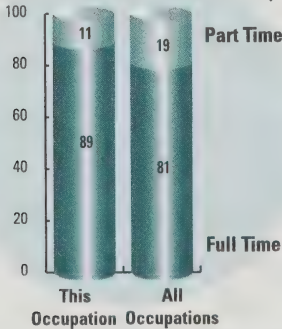
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Sales Representatives, Wholesale Trade

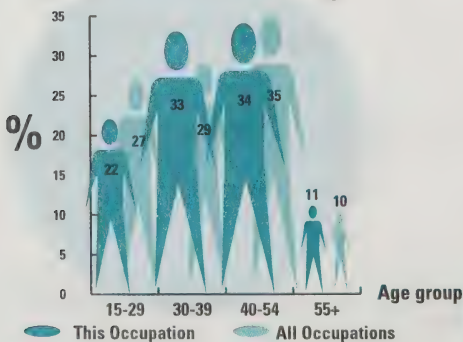
Where They Work



Type of Employment



Distribution by Age



At Work

These sales representatives work for wholesalers and for organizations such as petroleum companies; food, beverage and tobacco producers; clothing manufacturers; motor vehicle and parts manufacturers; hotels; business services firms; and transportation companies. Their duties may require them to:

- promote sales of non-technical goods and services to retail, wholesale, commercial, industrial and professional clients;
- deliver presentations to clients regarding the benefits and uses of the goods and services;
- estimate and quote prices, credit terms, warranties and delivery dates;
- prepare or supervise the preparation of contracts;
- consult with clients after sales to resolve problems and provide support; and
- review and respond to information regarding product innovations, competitors and market conditions.

This occupation also includes freight sales agents, food products sales representatives, oil distributors, periodicals and magazine sales representatives, hotel accommodations sales executives, security services sales consultants and graphic design sales representatives.

Education, Training & Experience

- People in this occupational group must have a high school diploma. They may require a college diploma or university degree. Most recent entrants have a post-secondary diploma or degree.
- They usually need experience in sales or in an occupation related to the product or service they are selling.
- With additional training or experience, they may progress to sales management positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

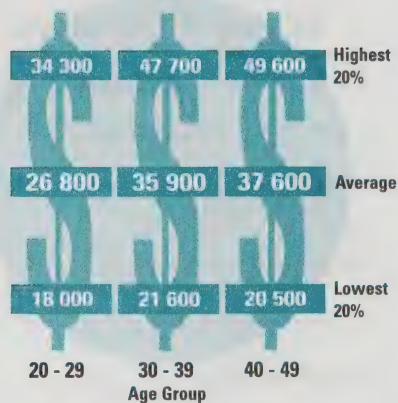
In These Occupations...

- 232,000 people were employed in 1998, an increase of 35.9% from 1988. After employment gains of 14.4% from 1988 to 1993, employment grew 18.8% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 11% work part-time, compared to an average of 19% for all occupations.
- 29% are self-employed, well above the average of 17% for all occupations.
- 30% are women, well below the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 4.2% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations with similar education/training requirements.
- the average earnings are comparable to those for other occupations with similar education/training requirements and for other occupations in the sales and service sectors.

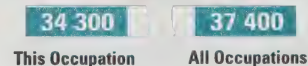
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the wholesale trade industry.

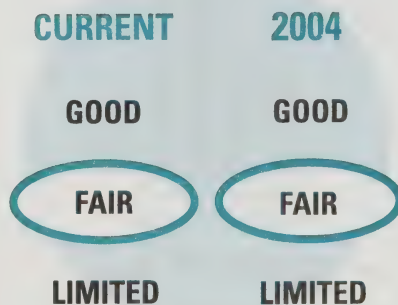
Earnings



Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Retail Salespersons and Sales Clerks

Where They Work



At Work

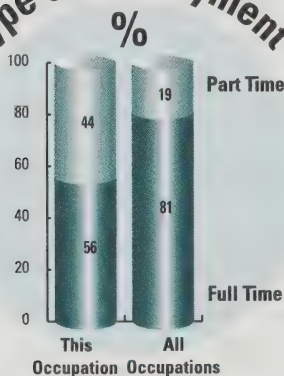
People in this occupational group work in a wide variety of retail stores and wholesale businesses that sell on a retail basis to the general public. Their duties may require them to:

- assist customers with purchases of merchandise or rental arrangements;
- provide information and advice on merchandise;
- estimate and quote prices, credit terms, trade-in allowances, warranties and delivery dates;
- prepare sales contracts, and accept cash, cheques, credit cards and automatic debit payments;
- assist in the display of merchandise and other activities; and
- maintain sales records for inventory control.

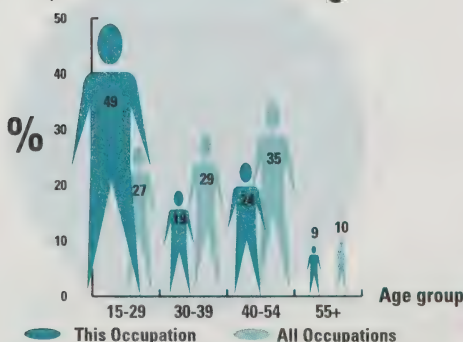
Education, Training & Experience

- People in this group may be required to have a high school diploma. They often need to be aware of the latest fashions and trends, especially when dealing with young people. Many recent entrants have a high school diploma.
- Retail salespersons are usually required to demonstrate sales ability and product knowledge when selling complex or valuable merchandise such as automobiles, antiques and computers.
- They must be able to work with computers and be prepared to perform such tasks as inventory record keeping, inventory restocking and reordering, and reporting of sales trends among products.
- With experience and additional training, people in this group may progress to retail supervisory positions.

Type of Employment



Distribution by Age



*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

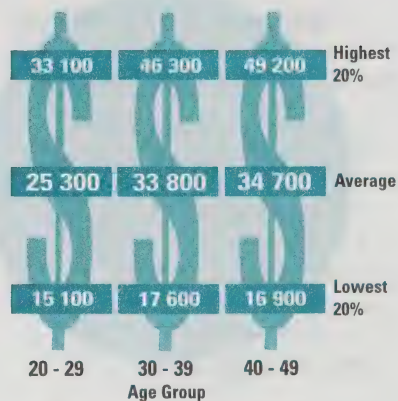
In These Occupations...

- 506,000 people were employed in 1998, an increase of 3.5% from 1988. After declining 2.5% over the 1988 to 1993 period, employment increased 6.2% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 44% work part-time, well above the average of 19% for all occupations.
- 4% are self-employed, well below the average of 17% for all occupations.
- 63% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 6.9% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other occupations with similar education/training requirements and for other occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are at the average level.
- Over the next five years, the outlook is expected to weaken to "Limited", as the number of qualified recent graduates and non-completers seeking work is expected to exceed the number of job openings in these and related occupations. Job openings are expected to be limited due to slower growth in employment in the retail trade sector and relatively low retirement rates due to the young age distribution in these occupations. While demand weakens, the number of new entrants is expected to continue at or near its current level.
- These occupations often provide labour market entrants with their first paid employment experience.
- Point-of-sales data entry and computerized scanning systems will increasingly be used in the retail sector. Sales personnel will need to be familiar with these technologies.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the retail trade and wholesale trade industries.

Earnings



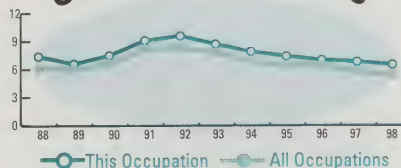
Overall Average for All Ages (15+)

31 600	37 400
This Occupation	All Occupations

Work Prospects

CURRENT	2004
GOOD	GOOD
FAIR	FAIR
LIMITED	LIMITED

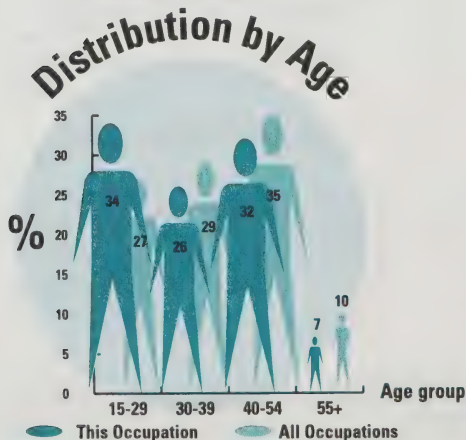
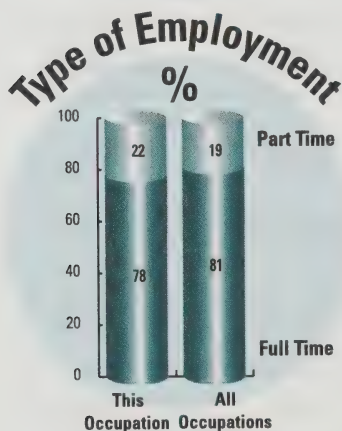
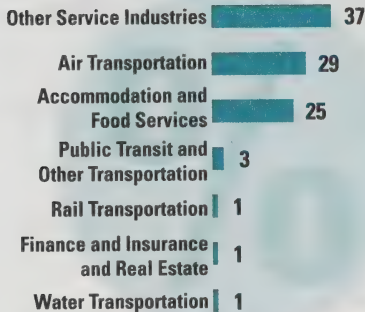
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Occupations in Travel and Accommodation

Where They Work



At Work

People in these occupations work in travel and tourism agencies; hotels; motels; resorts; airlines; bus, railway and boat companies; steamship lines; travel wholesalers; and other organizations.

- Travel counsellors advise clients on travel options, make reservations, prepare tickets and receive payments.
- Airline pursers and flight attendants ensure the safety and comfort of passengers, serve food and beverages and provide information.
- Ship pursers attend to the safety and comfort of passengers, supervise ship attendants and conduct some business activities.
- Airline reservation and sales agents issue tickets, attend boarding gates, make reservations, trace missing baggage and arrange cargo.
- Airline station agents complete and relay pre-flight data to operational control and down-line stations and perform ticket, baggage and cargo agent duties.
- Airline load planners plan the positioning of cargo on aircraft to distribute and balance the cargo.
- Reservation, sales and cargo agents quote fares and rates, issue tickets, make reservations, process cargo shipments and check baggage for bus, train and marine passengers.
- Hotel front-desk agents perform guest check-in and check-out procedures, provide information and receive payments.

Education, Training & Experience

- In addition to completion of high school, people in these occupations usually require a college diploma, government-approved training or other courses and experience in their field. They may benefit from occupational certification when available. Most recent entrants have a high school or community college diploma.
- Airline load planners require a restricted radio operator's licence and usually have airline operations experience.

In These Occupations...

- 68,000 people were employed in 1998, an increase of 27.8% from 1988. This reflects an increase of 13.3% from 1988 to 1993 and 12.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

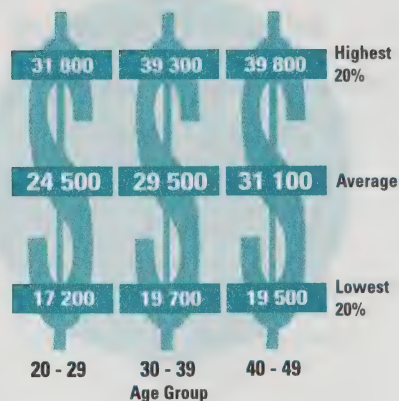
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 37% are travel counsellors; 26% are hotel front desk clerks; 16% are airline sales and service agents; and 15% are pursers and flight attendants.
- 22% work part-time, compared to an average of 19% for all occupations.
- 6% are self-employed, well below the average of 17% for all occupations.
- 74% are women, well above the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 4.2% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations with similar education/training requirements.
- the average earnings are lower than for other occupations with similar education/training requirements but are comparable to those for other occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are above average and earnings are below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Conditions may vary widely among the various occupations in this group.
- The Canadian Tourism Human Resource Council (CTHRC) expects strong employment growth in the tourism industry. According to the CTHRC, conditions in these occupations are good and will remain good through 2004.
- Increasing use of computerized reservation systems and retrieval of information on destinations using the Internet will require persons in these occupations to develop the appropriate skills.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the accommodation industry.

Earnings



Overall Average for All Ages (15+)

29 300	37 400
This Occupation	All Occupations

Work Prospects

CURRENT 2004

GOOD

GOOD

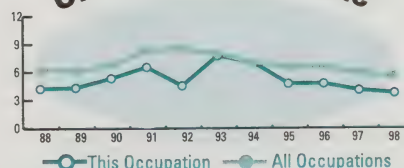
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



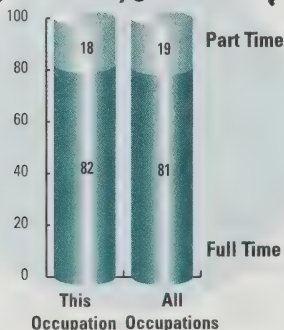
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Travel Counsellors

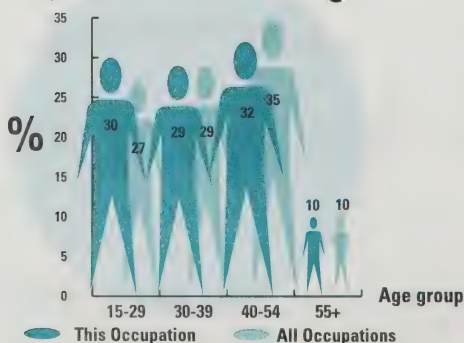
Where They Work



Type of Employment



Distribution by Age



At Work

Travel counsellors work in travel agencies, hotel chains and transportation and tourism firms. Their duties may require them to:

- provide travel information to individuals and groups regarding destinations, transportation, accommodation and costs;
- make transportation and accommodation reservations using a computerized reservation and ticketing system;
- sell single-fare tickets and packaged tours;
- promote particular destinations, tour packages and other travel services; and
- provide travel tips regarding tourist attractions, foreign currency, customs, languages and travel safety.

Education, Training & Experience

- Travel counsellors must have a high school diploma. Most recent entrants have a community college diploma or a university undergraduate degree.
- They may need to obtain certification with the Canadian Institute of Travel Counsellors (CITC). This certification requires three years' experience and the successful completion of courses and examinations.
- With experience, they may progress to managerial positions.

In These Occupations...

- 25,000 people were employed in 1998, an increase of 65.0% from 1988. After employment gains of 31.5% from 1988 to 1993, employment growth slowed to 25.4% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 18% work part-time, compared to an average of 19% for all occupations.
- 11% are self-employed, compared to an average of 17% for all occupations.
- 83% are women, well above the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 3.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations with similar education/training requirements and for occupations in the sales and service sectors.

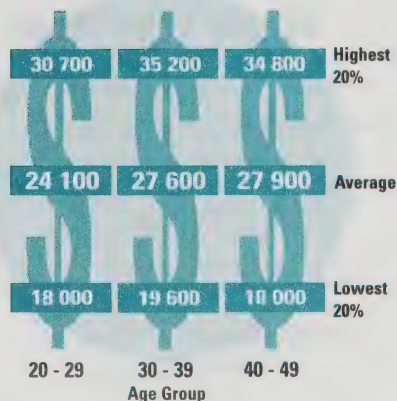
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- the average earnings are lower than those for other occupations with similar education/training requirements and for occupations in the sales and service sectors.

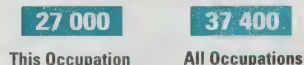
National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are well above average but earnings are well below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The Canadian Tourism Human Resource Council (CTHRC) expects strong employment growth in the tourism industry over the next five years. According to the CTHRC, conditions in this occupation are good and will remain good through 2004.
- To meet competition in ticket sales from various types of direct sales operations, travel counsellors will need to provide specialized services in travel planning. To do so, they will retrieve information on destination attractions and activities using the Internet and other electronic data access systems. They will also use computerized reservation and booking systems of increasing sophistication. This will require them to develop the appropriate skills.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the services industry.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

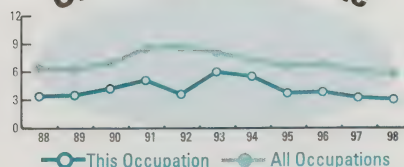
FAIR

FAIR

LIMITED

LIMITED

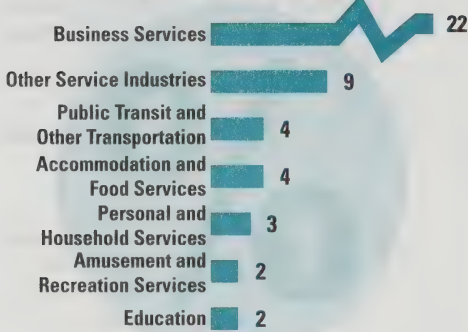
Unemployment Rate



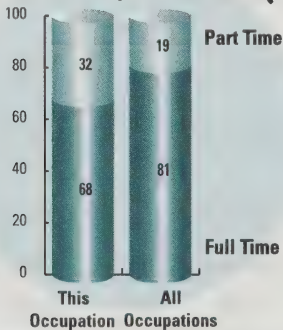
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Tour and Recreational Guides and Amusement Occupations

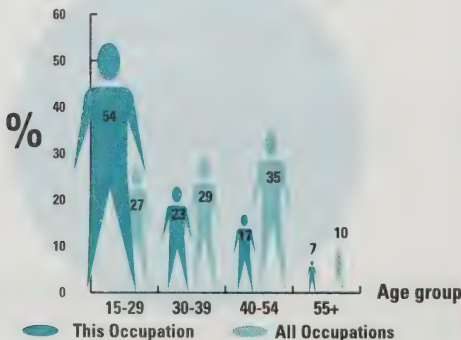
Where They Work



Type of Employment



Distribution by Age



At Work

People in these occupations are employed by tour operators, resorts and private companies.

- Tour guides escort individuals and groups on tours of cities, waterways and other attractions, and may collect admission fees and sell souvenirs.
- Travel guides escort individuals and groups on vacations and business trips, take care of transportation and accommodation reservations and handle travel problems.
- Outdoor adventure and recreation guides organize and conduct trips and expeditions for sports enthusiasts, adventurers, tourists and resort guests.

Education, Training & Experience

- People in these occupations require different educational and training backgrounds. Most recent entrants have a high school or community college diploma.
- Tour and travel guides usually require on-the-job training and may need to be able to speak English and French.
- Outdoor adventure and recreation guides must have knowledge of a particular geographical area and proven ability in their area of recreation - for example, in white water rafting. Professional certification is available for some guiding occupations.
- Hot-air balloon pilots require 10 hours of ground school and 16 hours of pilot-in-command experience. They must be licensed by the federal government.

In These Occupations...

- 23,000 people were employed in 1998, an increase of 77.8% from 1988. This reflects an increase of 22.2% from 1988 to 1993 and 45.6% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 72% are tour and travel guides and 28% are outdoor sport and recreational guides.
- 32% work part-time, well above the average of 19% for all occupations. The proportion of part-time workers in these occupations has decreased significantly over the last ten years.
- 10% are self-employed, compared to an average of 17% for all occupations.
- 36% are women, compared to the average of 45% for all occupations.

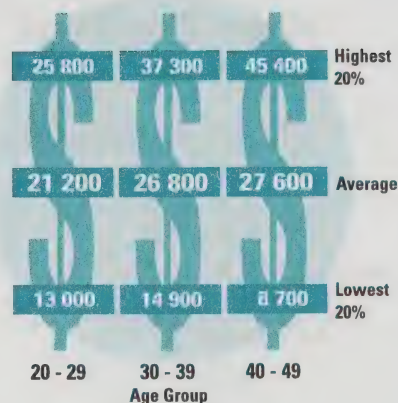
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- the unemployment rate averaged 15.3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations with similar education/training requirements and for occupations in the sales and service sectors.
- the average earnings are lower than those for other occupations with similar education/training requirements and for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities and earnings are both well below average.
- Over the next five years, this outlook is not expected to change, as the number of qualified recent graduates or non-completers seeking work is expected to increase more rapidly than the number of job openings in these and related occupations.
- The Canadian Tourism Human Resource Council (CTHRC) expects strong employment growth in the tourism industry over the next five years. According to the CTHRC, conditions in these occupations currently are fair and will remain fair through 2004.
- Many of the opportunities in this area are in emerging types of tourism, such as eco-tourism, agri-tourism, industrial tourism and adventure tourism.
- Presentation methods for tours will become increasingly sophisticated, using multimedia and virtual reality techniques. Customers are now highly knowledgeable and seek new and unique experiences. This will increase the skill requirements for guides and tour directors, particularly computer skill requirements.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the services sector and accommodation industry.

Earnings



Overall Average for All Ages (15+)

26 200	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



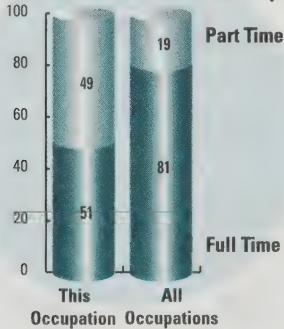
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Occupations in Food and Beverage Service

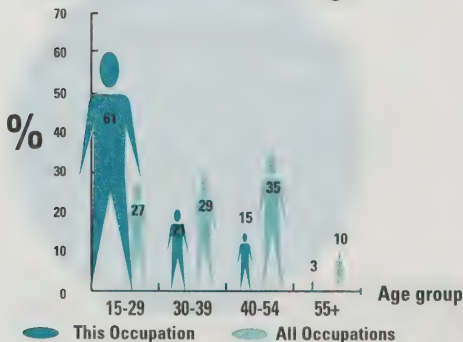
Where They Work



Type of Employment



Distribution by Age



At Work

People in these occupations work in restaurants, hotel dining rooms, private clubs, cocktail lounges, bars, taverns, banquet halls and licensed and other establishments.

- *Maitres d'hôtel*, hosts and hostesses take reservations, greet and escort patrons to tables, attend to complaints and requests and accept payments. They also train, supervise and coordinate food and beverage servers and other serving staff.
- Bartenders prepare cocktails and other drinks for waiters and waitresses or serve drinks directly to patrons and collect payments. They also maintain an inventory of bar supplies and may supervise other bartenders and bar staff.
- Waiters and waitresses present menus, take patrons' orders and serve food and beverages. They accept payments and may recommend wines and prepare and serve specialty foods at patrons' tables. Wine stewards suggest, present and serve wines in formal settings.

Education, Training & Experience

- People in these occupations may require a high school diploma. Many recent entrants have a high school diploma.
- *Maitres d'hôtel*, hosts and hostesses usually require several weeks' on-the-job training.
- *Maitres d'hôtel* require experience as formal or captain waiters and waitresses, or other food service experience.
- Bartenders usually require a college or other bartending program, or courses in mixing drinks.
- Waiters and waitresses may require on-the-job training. Formal waiters and waitresses may require college or vocational school courses.
- Wine stewards may require courses in wine selection and service or experience as formal or captain waiters and waitresses.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

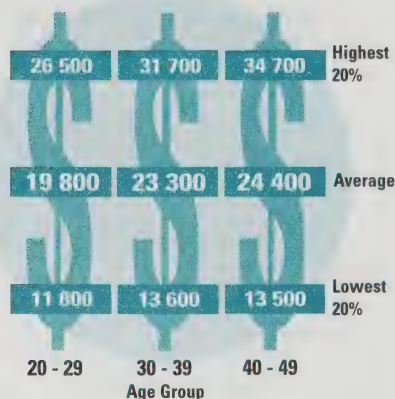
In These Occupations...

- 259,000 people were employed in 1998, an increase of 18.6% from 1988. This reflects an increase of 9.8% from 1988 to 1993 and 8.0% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 76% are food and beverage servers; 17% are bartenders; and 7% are maitres d'hôtel and hosts/hostesses.
- 49% work part-time, well above the average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the last ten years.
- 1% are self-employed, well below the average of 17% for all occupations.
- 76% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 9.0% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the sales and service sectors.
- the average earnings are among the lowest for occupations with similar education/training requirements and for occupations in the sales and service sectors.

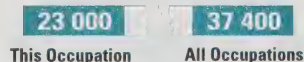
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities and earnings are well below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Increased use of computerized ordering and billing systems will reduce this component of these workers' jobs, increasing the time available to devote to providing service.
- Almost all of the increase in employment requirements through 2004 for these occupations is expected to occur in the accommodation and food service industry.

Earnings



Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



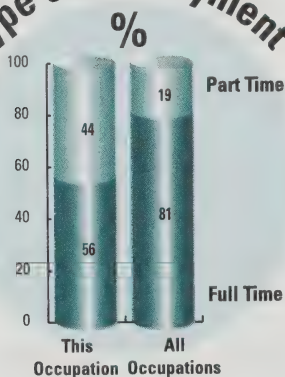
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Child Care and Home Support Workers

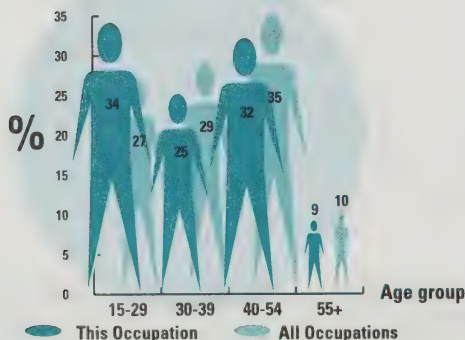
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in government and non-profit agencies; home-care, foster-parent and babysitting agencies; health care institutions; embassies; private households; public and private nursery, elementary and high schools; and daycare centres. They may also be self-employed.

- Visiting homemakers provide support services during periods of illness or other problems.
- Housekeepers perform housekeeping duties, prepare meals and may provide child care.
- Companions provide companionship and personal care to the elderly and those recovering from illness.
- Early childhood educators plan and organize activities for preschool children and encourage their intellectual, physical and emotional growth.
- Early childhood educator assistants and elementary and high school teacher assistants, under supervision, help with lessons, outings and other activities, and assist special-needs students with mobility, communication and personal hygiene.

This occupational group also includes babysitters, parents' helpers, nannies and other live-in caregivers.

Education, Training & Experience

- People in this group usually have some high school education. Many recent entrants have a high school or community college diploma.
- They may need college or other courses in child care, home management and support, and first aid.
- They may require experience and have to demonstrate ability in their area of work.
- Early childhood educators require a university degree or college diploma in early childhood education or a university degree in education.
- Elementary and high school teacher assistants usually need a high school diploma. They may require specialized training and experience with special-needs students.

In These Occupations...

- 299,000 people were employed in 1998, an increase of 26.2% from 1988. After employment gains of 10.0% from 1988 to 1993, employment grew 14.7% from 1993 to 1998. In

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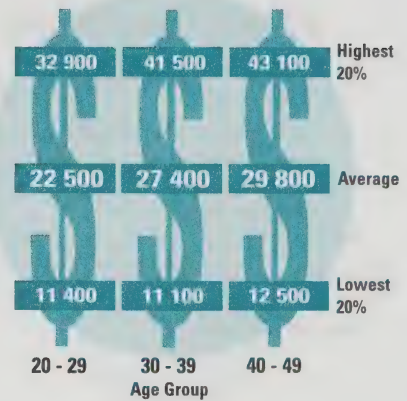
comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

- 39% are babysitters and nannies; 24% are early childhood educators and assistants; 20% are visiting homemakers; and 17% are teachers' assistants.
- 45% work part-time, well above the average of 19% for all occupations.
- 43% are self-employed, well above the average of 17% for all occupations.
- 94% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 7.3% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for occupations with similar education/training requirements and for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average, although earnings are below the average level for all occupations.
- Over the next five years, the outlook is expected to weaken to "Limited". Rapid growth in the number of qualified job seekers, due essentially to a large number of recent graduates or non-completers seeking work, is expected to mean that job seekers will outnumber job openings, despite significant employment growth in these occupations.
- However, government decisions regarding levels of support for child care, the provision of pre-kindergarten schooling and whether early childhood educators or teachers will teach kindergarten and pre-kindergarten will be crucial factors in determining the demand for workers in this occupation.
- An aging population will increase the demand for home-care workers.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the personal and household services and health and social services industries.

Earnings



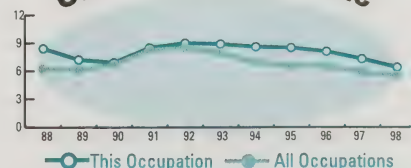
Overall Average for All Ages (15+)

28 000	37 400
This Occupation	All Occupations

Work Prospects



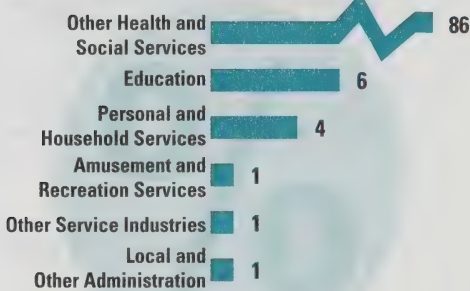
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Early Childhood Educators and Assistants

Where They Work



At Work

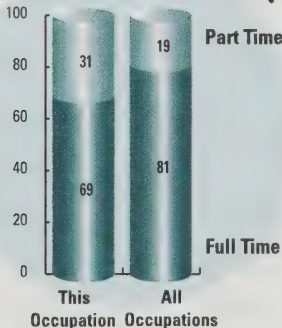
People in this occupation work in daycare centres and nursery schools. They may also be self-employed.

- Early childhood educators plan, organize and lead activities for preschool children that are designed to encourage intellectual, physical and emotional growth. They observe children for signs of learning disabilities or emotional problems, and discuss progress or problems with parents and staff members.
- Early childhood educator assistants take care of preschool children under the supervision of early childhood educators. They also maintain daycare equipment and assist in housekeeping duties.

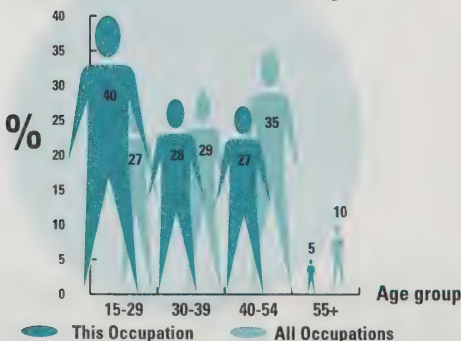
Education, Training & Experience

- People in this occupation need different educational levels, depending on their position. Most recent entrants have a community college diploma or an undergraduate university degree.
- Early childhood educators usually require a bachelor's degree or college diploma in early childhood education or a bachelor's degree in education.
- With experience, early childhood educators may progress to senior positions such as daycare supervisor.
- Early childhood educator assistants usually have a high school diploma and require experience in child care.

Type of Employment



Distribution by Age



In These Occupations...

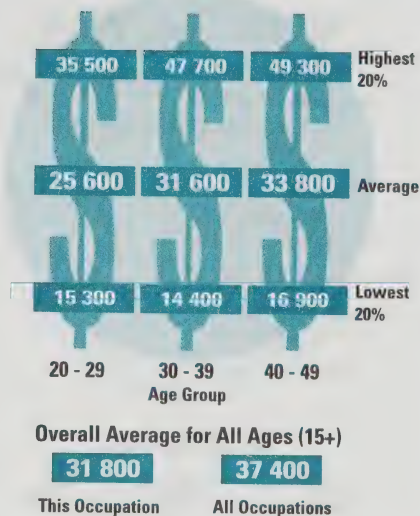
- 72,000 people were employed in 1998, an increase of 69.6% from 1988. After employment gains of 33.5% from 1988 to 1993, employment growth slowed to 27.0% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 31% work part-time, well above the average of 19% for all occupations.
- 38% are self-employed, well above the average of 17% for all occupations.
- 96% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 7.1% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to other occupations with similar education/training requirements and to other occupations in the sales and service sectors.

**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

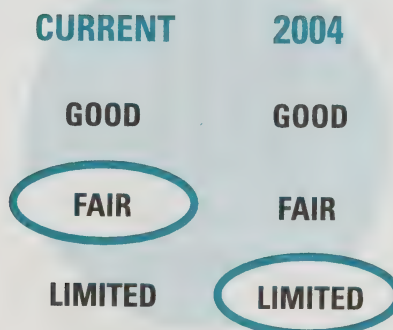
National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", as employment opportunities and earnings are both at average levels.
- Over the next five years, the outlook is expected to weaken to "Limited". A large influx of recent graduates looking for work in this occupation is expected to lead to rapid growth in the number of qualified job seekers. As a result, despite significant growth in employment opportunities, the number of job seekers is expected to exceed the number of job openings.
- However, government decisions regarding levels of support for child care, the provision of pre-kindergarten schooling and whether early childhood educators or teachers will teach kindergarten and pre-kindergarten will be crucial factors in determining the demand for workers in this occupation.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the health and social services industry.

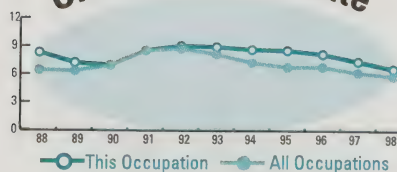
Earnings



Work Prospects



Unemployment Rate



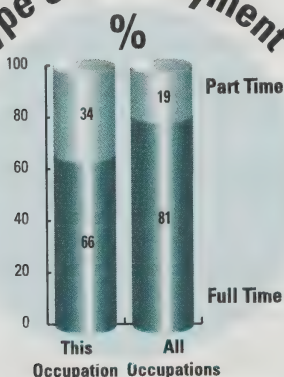
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Other Occupations in Personal Services

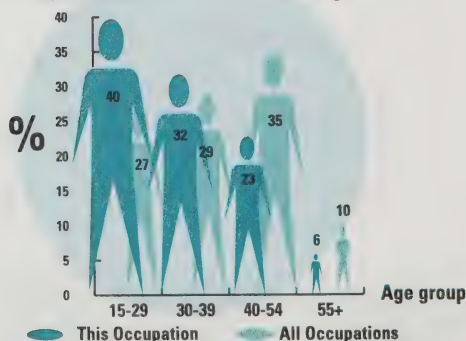
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in beauty salons, fashion boutiques, modelling schools, image consulting companies, electrolysis studios, scalp treatment clinics, animal hospitals and clinics, animal shelters, kennels, zoos, pet grooming service companies, laboratories, and for psychic consultants and fortune telling, astrological and similar services. They may also be self-employed.

- Image consultants provide advice to improve their clients' general appearance, posture and manner.
- Estheticians administer facial and other skin treatments.
- Electrologists remove unwanted hair permanently using specialized electrical equipment.
- Manicurists and pedicurists clean, shape and polish fingernails and toenails.
- Tattoo artists apply permanent designs to clients' skin.
- Pet groomers and animal care workers feed, handle, train and groom animals and assist veterinarians and other animal care workers.

This occupational group also includes etiquette and wedding consultants; wardrobe and make-up consultants; public speaking consultants; weight loss consultants; beauty treatment operators; cosmeticians; dog trainers; kennel, veterinary and zoo attendants; and fortune tellers.

Education, Training & Experience

- People in this group usually must have a high school diploma. Many recent entrants have a trade/vocational certificate or a community college diploma.
- They usually need specialized or on-the-job training.
- Beauty treatment operators and manicurists in Manitoba require provincial licences.
- Skin care specialists and manicurists in Nova Scotia require provincial licences.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

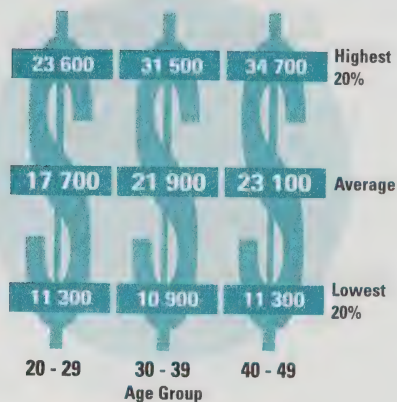
In These Occupations...

- 34,000 people were employed in 1998, an increase of 42.9% from 1988. After employment gains of 22.4% from 1988 to 1993, employment growth slowed to 16.8% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 49% are estheticians and electrologists and 37% are pet groomers and animal care workers.
- 34% work part-time, well above the average of 19% for all occupations.
- 44% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 87% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 5.5% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for occupations with similar education/training requirements and for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since earnings are well below average, although employment opportunities are at the average level.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Use of computers for product presentation and information retrieval will require that these workers develop the necessary skills.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the personal and household services industry.

Earnings



Overall Average for All Ages (15+)

26 100	37 400
This Occupation	All Occupations

Work Prospects

CURRENT 2004

GOOD

GOOD

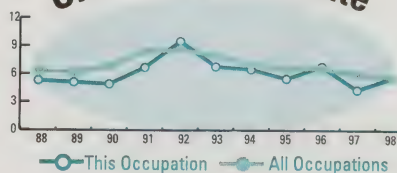
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



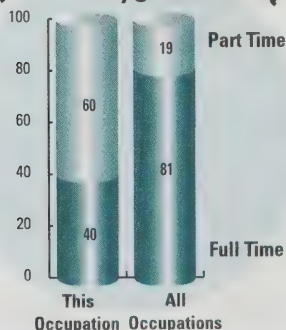
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Cashiers

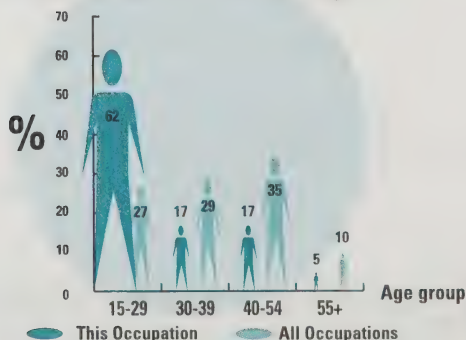
Where They Work



Type of Employment



Distribution by Age



At Work

Cashiers work in stores, restaurants, theatres, government and other business offices, self-serve gas bars and other organizations throughout the private sector. Their duties may require them to:

- establish or identify the price of goods, services and admission fees;
- total bills using calculators, cash registers and optical price scanners;
- receive payment in cash or by cheque, credit card and automatic debit;
- wrap or place merchandise in bags;
- provide information to customers; and
- calculate and record total sales received on completion of their work shift.

Education, Training & Experience

- Cashiers usually require some high school education. Most recent entrants have a high school or community college diploma.
- They may have to be eligible for bonding, that is, be able to prove to an employer that they can hold a position of trust so that the employer can insure a cashier's services against any losses he or she might incur.
- With additional training or experience, they may progress to supervisory positions such as head cashier.

In These Occupations...

- 241,000 people were employed in 1998, an increase of 13.7% from 1988. After employment gains of 8.7% from 1988 to 1993, employment growth slowed to 4.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 60% work part-time, well above the average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the last ten years.
- 1% are self-employed, well below the average of 17% for all occupations.
- 87% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 7.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

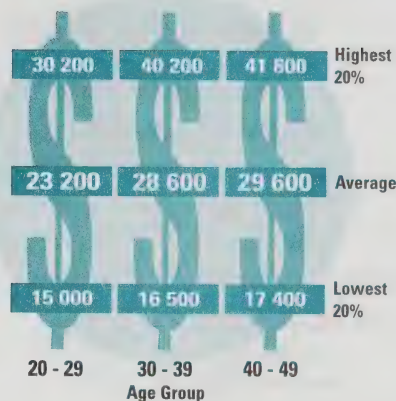
among the lowest for occupations with similar education/training requirements.

- the average earnings are comparable to those for other occupations with similar education/training requirements but are among the lowest for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average, although earnings are below the average level for all occupations.
- Over the next five years, the outlook is expected to weaken to "Limited". A large influx of recent graduates or non-completers looking for work in these occupations is expected to lead to rapid growth in the number of qualified job seekers. As a result, despite significant growth in employment opportunities, the number of job seekers is expected to exceed the number of job openings.
- The adoption of electronic scanning systems will require new skills, which will be learned on-the-job for the most part.
- Automated checkout systems and the growth of electronic and mail order sales may decrease labour demand in these occupations.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the retail trade and accommodation and food services industries.

Earnings



Overall Average for All Ages (15+)

27 700	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

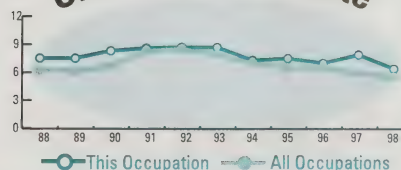
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



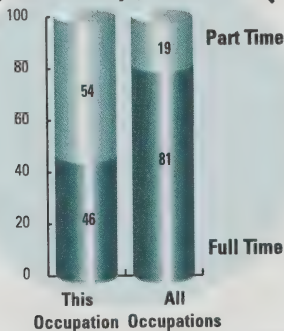
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Other Sales and Related Occupations

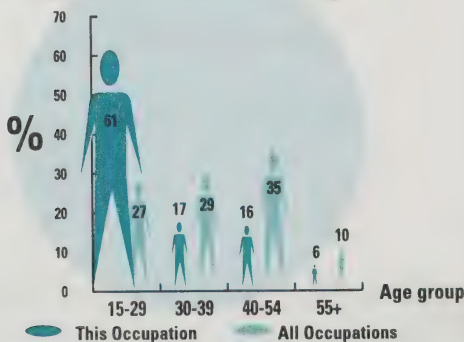
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in service stations; marinas; grocery, hardware and department stores; mail order warehouses; and a wide range of retail and wholesale organizations.

- Automotive service station attendants refuel vehicles; perform minor service and maintenance such as checking and replacing motor oil, window washing fluid and air in tires; and receive payments.
- Marina service station attendants refuel boats, pump boats' septic systems, rent boats and equipment, receive payments and maintain dock area and marina facilities.
- Grocery clerks and shelf stockers bag and box customers' purchases, carry purchases to customers' vehicles, price items, and stock shelves and display areas.
- Direct distributors and door-to-door salespersons sell merchandise in private homes.
- Street vendors set up, display and sell merchandise on sidewalks and at public events.
- Demonstrators show, describe and sell goods and services in retail and other organizations, at exhibitions and trade shows, and in private homes.

This occupational group also includes order fillers, warehouse stock pickers, canvassers and telephone solicitors and telemarketers.

Education, Training & Experience

- People in this group usually must have some high school education. Most recent entrants have a high school or community college diploma.
- Propane and natural gas pump attendants may require an operator's licence.
- Self-employed street vendors and door-to-door salespersons may require municipal merchants' permits.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

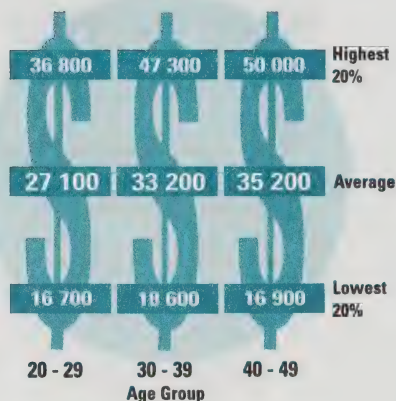
In These Occupations...

- 195,000 people were employed in 1998, an increase of 17.0% from 1988. After employment gains of 5.8% from 1988 to 1993, employment grew 10.6% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 54% are grocery clerks and shelf stockers and 19% are service station attendants.
- 54% work part-time, well above the average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the last ten years.
- 13% are self-employed, compared to an average of 17% for all occupations.
- 36% are women, compared to an average of 45% for all occupations.
- the unemployment rate averaged 8.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the sales and service sectors.
- the average earnings are among the highest for occupations with similar education/training requirements and are comparable to those for other occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are below average and earnings are above the average level for comparable occupations.
- Over the next five years, the outlook is expected to weaken to "Limited". A large influx of recent graduates or non-completers looking for work in these occupations is expected to lead to rapid growth in the number of qualified job seekers. As a result, despite significant growth in employment opportunities, the number of job seekers is expected to exceed the number of job openings.
- Computerization of product-line information and of systems to record transactions will require that workers in these occupations develop the appropriate skills.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the retail trade industry.

Earnings



Overall Average for All Ages (15+)

31 700	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

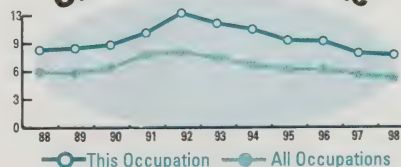
FAIR

FAIR

LIMITED

LIMITED

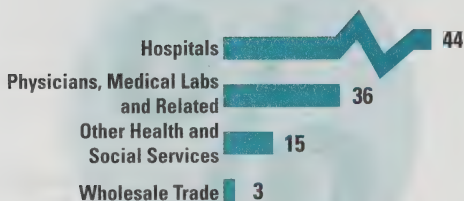
Unemployment Rate



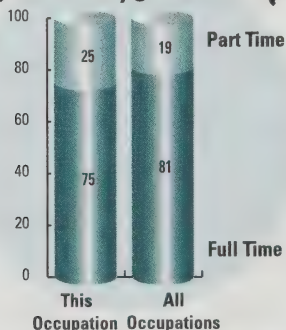
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Elemental Medical and Hospital Assistants

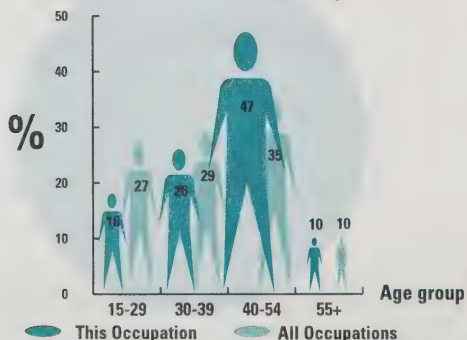
Where They Work



Type of Employment



Distribution by Age



At Work

These assistants work in hospitals and other health care institutions, medical clinics and offices of health care professionals such as chiropractors, occupational therapists and physiotherapists.

- Blood donor clinic assistants set up equipment, maintain supplies, monitor donors under the supervision of a registered nurse and label donated blood.
- Central supply aides collect and sort soiled supplies and instruments from hospital departments; operate machines to clean, reprocess and sterilize these supplies; and assemble packs of sterile supplies and instruments.
- Chiropractic aides assist elderly and incapacitated patients, position them for treatments and connect treatment machines as directed by chiropractors. They may perform clerical duties.
- Occupational therapy assistants prepare and maintain work materials and supplies. They may assist patients in crafts and other activities as directed by occupational therapists.
- Physiotherapy assistants take patients to treatment rooms, clean equipment, change linen and assist patients in the use of equipment and maintenance programs as directed by physiotherapists.

Education, Training & Experience

- These assistants need some high school education. Many recent entrants have a community college diploma.
- They require on-the-job training.
- Some employers may require health care courses or short-term college programs related to their area of work.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

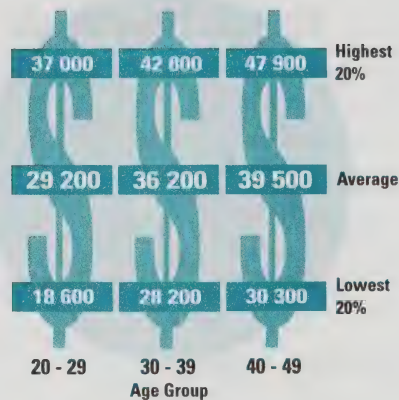
In These Occupations...

- 9,000 people were employed in 1998, an increase of 41.8% from 1988. After employment gains of 30.4% from 1988 to 1993, employment growth slowed to 8.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 25% work part-time, compared to an average of 19% for all occupations.
- 7% are self-employed, compared to an average of 17% for all occupations.
- 83% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 3.6% from 1996 to 1998, compared to the national average of 6.0% This rate is among the lowest for occupations with similar education/training requirements and for occupations in the sales and service sectors.
- the average earnings are among the highest for occupations with similar education/training requirements and are comparable to those for other occupations in the sales and service sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both above the average levels for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Restructuring of the health care system is likely to decrease demand for these workers in acute care hospitals but increase demand in extended care facilities.
- The introduction of certification in areas of these occupations will increase the importance of continuous learning.
- Computer skills will become more important as more sophisticated patient record and office management systems are introduced.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in private health practices and medical laboratories and in hospitals.

Earnings



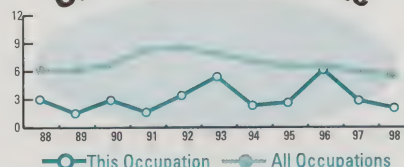
Overall Average for All Ages (15+)

\$35 300	\$37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



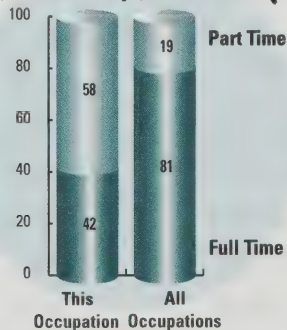
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Food Counter Attendants and Kitchen Helpers

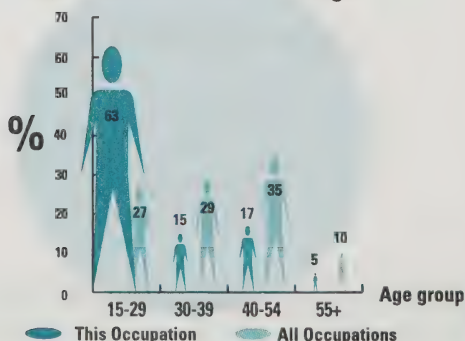
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in cafeterias, fast food outlets, restaurants, hotels, hospitals and other organizations.

- Food service counter attendants and food preparers take customers' orders; prepare sandwiches, hamburgers, salads, milkshakes and similar items; serve customers at counters and buffet tables; and may receive payment for items purchased. They also heat or finish cooking partially cooked foods received from central food commissaries.
- Kitchen helpers wash and peel vegetables and fruit; wash work tables and appliances; clean kitchen refuse containers; unpack and store supplies; sweep and mop floors; and assist cooks and kitchen staff.
- Food service helpers clean tables and trays; take dishes, flatware and other items to serving areas to set tables; replenish condiments and other supplies; and perform other duties such as scraping and stacking dishes and running errands.
- Dishwashers operate dishwashers or wash dishes, glassware, flatware, pots and pans by hand; store dishes; and may clean and polish silverware.

This occupational group also includes fast food preparers, salad bar attendants, sandwich makers, bartender helpers, bus boys/girls and cook's helpers.

Education, Training & Experience

- People in this group may require some high school education. Many recent entrants have a high school diploma.
- They may get on-the-job training.
- With further training and experience, they may move into other occupations in food preparation and service such as cook and waiter.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

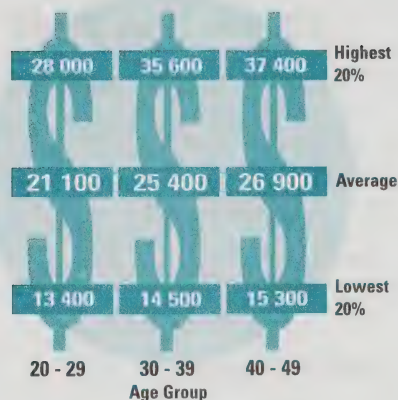
In These Occupations...

- 236,000 people were employed in 1998, an increase of 10.6% from 1988. This reflects an increase of 4.4% from 1988 to 1993 and 6.0% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 54% are food service counter attendants and 46% are kitchen and food service helpers.
- 58% work part-time, well above the average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the last ten years.
- 1% are self-employed, well below the average of 17% for all occupations.
- 64% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 8.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the sales and service sectors.
- the average earnings are among the lowest for occupations with similar education/training requirements and for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities and earnings are both well below average.
- Over the next five years, this outlook is not expected to change, as the number of qualified recent graduates or non-completers seeking work is expected to increase more rapidly than the number of job openings.
- Increasing computerization in kitchens - for example, for recipe retrieval and inventory control - will require that these workers acquire appropriate skills.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the accommodation and food services industry.

Earnings



Overall Average for All Ages (15+)

24 600	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

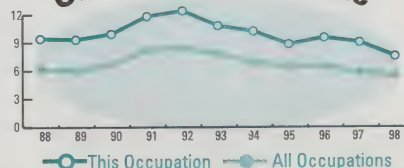
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



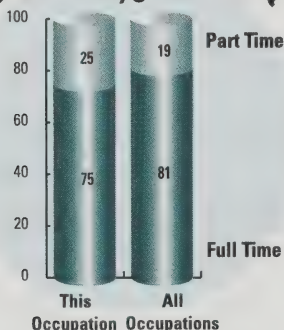
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Security Guards and Related Occupations

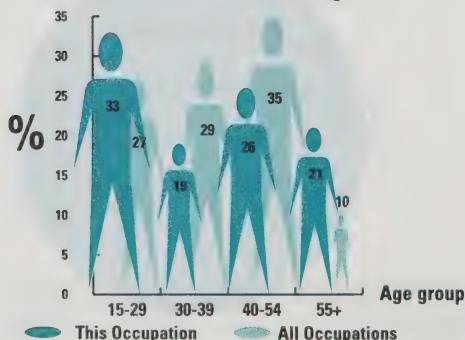
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupation work in private security agencies, retail stores, industrial establishments, museums and other organizations. Their duties may require them to:

- issue passes to control access to facilities and direct visitors to appropriate areas;
- patrol assigned areas to guard against theft, shoplifting, vandalism and fire;
- enforce regulations to maintain order at public events;
- perform airport security checks of passengers and luggage;
- drive and guard armoured trucks and deliver cash and valuables to banks, automated teller machines and retail organizations; and
- supervise and coordinate the activities of other security guards.

This occupation also includes gate attendants, bodyguards, bouncers, commissionaires and crossing guards.

Education, Training & Experience

- People in this occupation usually need a high school education. Many recent entrants have a community college diploma.
- Airport security guards are given training by their employers. Security guards employed by the federal government must be trained to Canadian General Standards Board standards. People in other security and guarding occupations may also get training.
- Security guards carrying firearms require a gun licence.
- Armoured car drivers need driver's licences.
- With experience, they may progress to senior security guards and supervisors.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

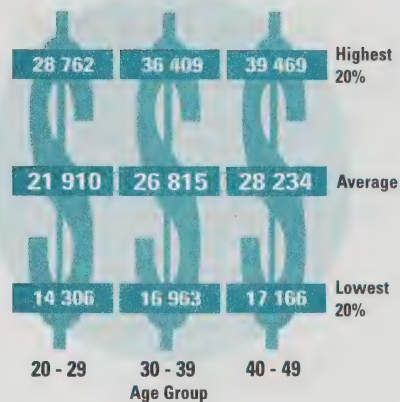
In These Occupations...

- 81,000 people were employed in 1998, an increase of 15.2% from 1988. Most of the growth occurred from 1993 to 1998, when employment increased 12.1%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 25% work part-time, compared to an average of 19% for all occupations.
- 2% are self-employed, well below the average of 17% for all occupations.
- 22% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 7.6% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other occupations with similar education/training requirements and for other occupations in the sales and service sectors.

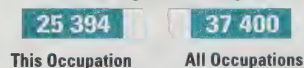
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average and earnings are below the average level for all occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Electronic surveillance systems will increasingly replace gatekeeper security guards. More and more, the work of security guards will require skills related to the use of these computer systems and to their maintenance and operation.
- Reduced government spending on police forces and a rising fear of crime may increase demand for security guards.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the business services industry.

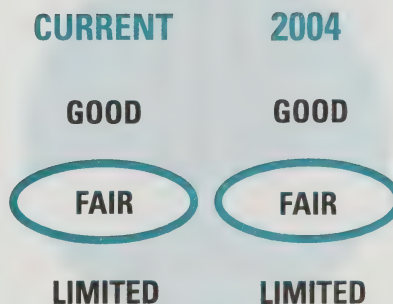
Earnings



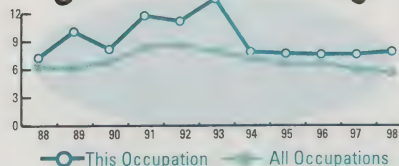
Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



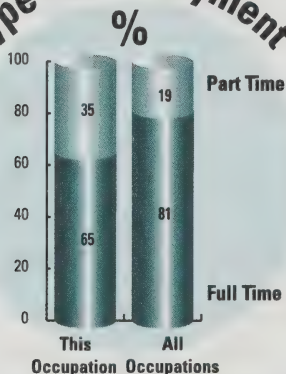
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Cleaners

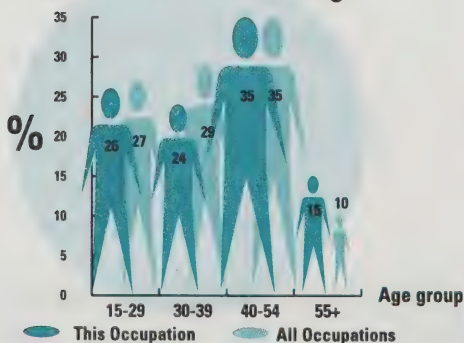
Where They Work



Type of Employment



Distribution by Age



At Work

These cleaners work for hotels, motels, hospitals and other health care institutions, school boards, and office and apartment building management and cleaning service companies, and in recreational facilities, shopping malls and private residences.

- Light duty cleaners clean hotels, motels, schools and private residences. They make beds, change linen, clean and disinfect kitchens, bathrooms, operating rooms and other hospital areas.
- Chimney cleaners operate industrial vacuum cleaners and use hand tools to clean chimneys and fireplaces.
- Furnace and ventilation system cleaners clean furnace filters, ducts and vents.
- Sandblasters operate sandblasting, pressurized steam and hydroblasting equipment to clean building exteriors, tanks and industrial equipment.
- Vehicle cleaners operate equipment, or work by hand, to clean the interiors and exteriors of automobiles and trucks.
- Janitors, caretakers and building superintendents clean and maintain the interiors and exteriors of buildings and surrounding grounds. They may advertise vacancies, show apartments and offices to prospective tenants, and collect rents.

This occupational group also includes window washers, carpet and upholstery cleaners, cleaners of septic tanks and freight cars, custodians, industrial cleaners and plant cleaners.

Education, Training & Experience

- These cleaners may require a high school diploma. Many recent entrants have a high school or community college diploma.
- Light and specialized cleaners do not need any formal education. They usually get on-the-job training and may need experience in specialized cleaning activities.
- Janitors, caretakers and building superintendents may need previous cleaning and maintenance experience.
- With additional training and experience, they may progress to supervisory positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

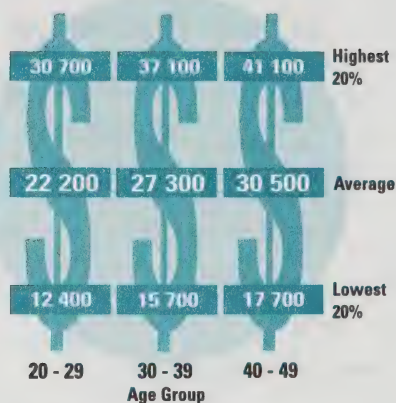
In These Occupations...

- 387,000 people were employed in 1998, an increase of 11.1% from 1988. This reflects an increase of 5.1% from 1988 to 1993 and 5.7% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 60% are janitors and building superintendents and 33% are light duty cleaners.
- 35% work part-time, well above the average of 19% for all occupations.
- 15% are self-employed, compared to an average of 17% for all occupations.
- 45% are women, equal to the average of women employed for all occupations.
- the unemployment rate averaged 8.5% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the sales and service sectors.
- the average earnings are among the lowest for occupations with similar education/training requirements and for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since earnings are well below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Employment requirements for these occupations are expected to increase across a broad range of industries through 2004, with much of the increase in the accommodation and food services industry.

Earnings



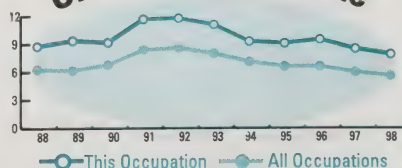
Overall Average for All Ages (15+)

25 100	37 400
This Occupation	All Occupations

Work Prospects

CURRENT	2004
GOOD	GOOD
FAIR	FAIR
LIMITED	LIMITED

Unemployment Rate



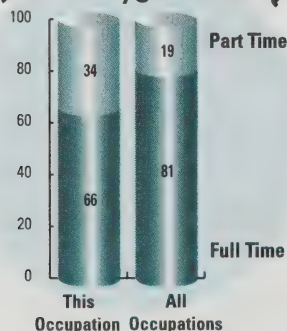
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Other Attendants in Travel, Accommodation and Recreation

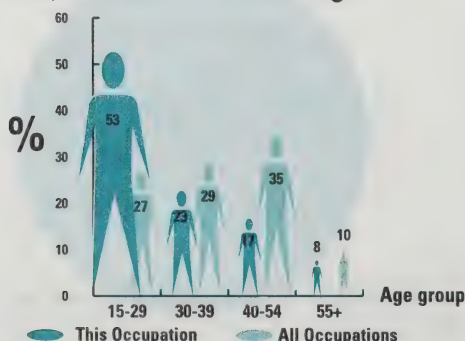
Where They Work



Type of Employment



Distribution by Age



At Work

These attendants work for amusement parks, fairs, arenas, billiard parlours, gambling casinos, bowling alleys, golf courses, ski centres, tennis clubs and other recreational and sports facilities, hotels, and railway and water transport companies.

- Amusement park attendants collect tickets, assist patrons on and off rides, and secure and release safety belts and bars.
- Amusement attraction operators transport rides, games and attractions to amusement sites, set up attractions and operate rides.
- Ice makers operate machines and prepare ice surfaces of rinks for hockey games and other activities.
- Recreational facility attendants schedule the use of golf courses, tennis courts, fitness clubs and other recreational facilities. They may collect fees and sell and rent sports equipment.
- Bellhops carry luggage for hotel and resort guests, escort them to their rooms, ensure that the rooms are in order and provide information on hotel services and local points of interest.
- Baggage porters carry travellers' luggage by hand or use handcarts, and arrange for ground transportation.
- Ship attendants serve food and beverages, clean cabins, make beds and carry passengers' luggage.
- Train service attendants set and clear dining car tables, clean sleeping cars and assist passengers.

This occupational group also includes ski lift and bowling alley attendants, hotel doorkeepers, redcaps, athletic equipment custodians and attendants of campgrounds, bingo halls, tennis courts and other recreational facilities.

Education, Training & Experience

- People in this group may require some high school education. Most recent entrants have a high school or community college diploma.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

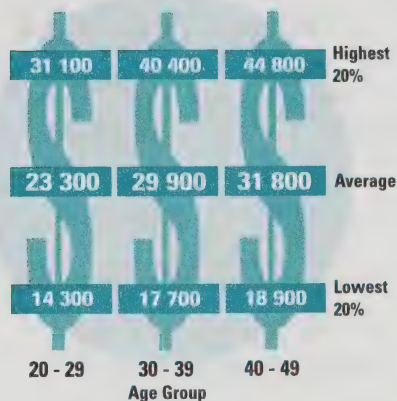
In These Occupations...

- 18,000 people were employed in 1998, an increase of 53.2% from 1988. This reflects an increase of 22.0% from 1988 to 1993 and 25.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 88% are attendants in amusement and recreation services.
- 34% work part-time, well above the average of 19% for all occupations.
- 4% are self-employed, well below the average of 17% for all occupations.
- 30% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 12.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the sales and service sectors.
- the average earnings are comparable to those for other occupations with similar education/training requirements but are among the lowest for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities and earnings are both well below average.
- Over the next five years, this outlook is not expected to change, as the number of qualified recent graduates or non-completers seeking work is expected to increase more rapidly than the number of job openings.
- The growth of casinos and casino resorts may increase employment requirements in these occupations.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the amusement and recreation services industry.

Earnings



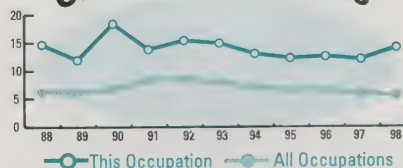
Overall Average for All Ages (15+)

27 700	37 400
This Occupation	All Occupations

Work Prospects

CURRENT	2004
GOOD	GOOD
FAIR	FAIR
LIMITED	LIMITED

Unemployment Rate



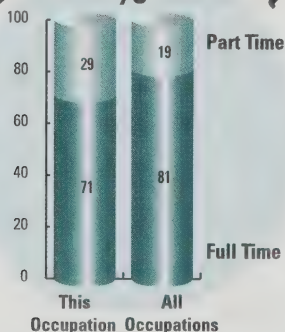
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Other Elemental Service Occupations

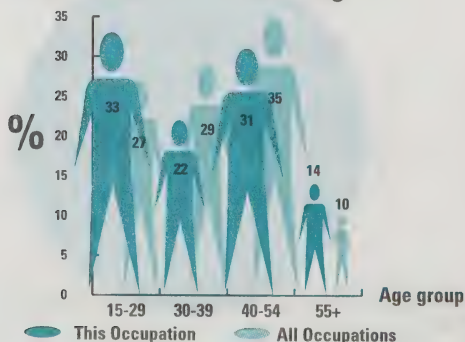
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in dry cleaning and laundry businesses, hotel and health care institutions and a wide range of retail organizations.

- Dry cleaning operators use machines to clean suits, sweaters, draperies, cushion covers and other garments and household articles. They may specialize in cleaning leather and suede garments.
- Dry cleaning and laundry inspectors check garments to make sure they meet appropriate standards.
- Ironing, pressing and finishing workers operate pressing and ironing machines and hand-iron fine lace or silk items.
- Beauty salon attendants shampoo customers' hair and assist hairstylists.
- Door attendants assist persons entering and leaving facilities.
- Ticket takers and ushers receive admission tickets at events.
- Funeral attendants drive hearses, arrange floral displays and perform other related duties.

This occupational group also includes fur cleaning operators, laundry machine operators and attendants, and parking lot attendants.

Education, Training & Experience

- People in this group usually require some high school education. Most recent entrants have a high school or community college diploma.
- People in dry cleaning, laundry, ironing and pressing occupations usually require on-the-job training and may need experience as inspectors or assemblers.
- Dry cleaners in British Columbia may have to complete a one-year apprenticeship.
- Suede, leather and fur cleaners may need experience as dry cleaning or laundry machine operators.
- Funeral attendants and car jockeys require driver's licences.

Check out the 'big picture' in
"World of Work: Overviews and Trends"

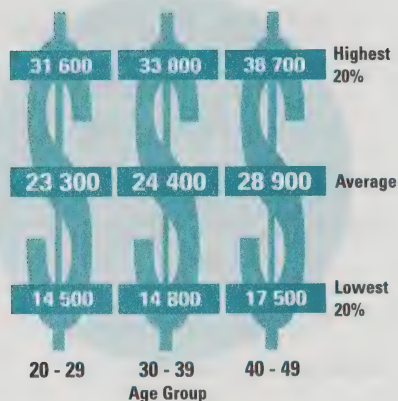
In These Occupations...

- 48,000 people were employed in 1998, a decrease of 10.0% from 1988. After rising 0.3% over the 1988 to 1993 period, employment decreased 10.2% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 46% work in dry cleaning and laundry occupations.
- 29% work part-time, well above the average of 19% for all occupations.
- 6% are self-employed, well below the average of 17% for all occupations.
- 51% are women, compared to an average of 45% for all occupations.
- the unemployment rate averaged 7.8% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for occupations with similar education/training requirements and for occupations in the sales and service sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Use new of technology, such as computer-controlled equipment, and environmental concerns may affect the skills required for these occupations.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the personal and household services industry.

Earnings



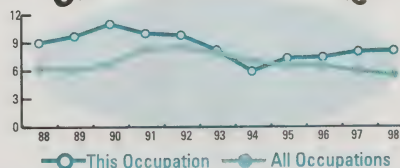
Overall Average for All Ages (15+)

24 600	37 400
This Occupation	All Occupations

Work Prospects

CURRENT	2004
GOOD	GOOD
FAIR	FAIR
LIMITED	LIMITED

Unemployment Rate



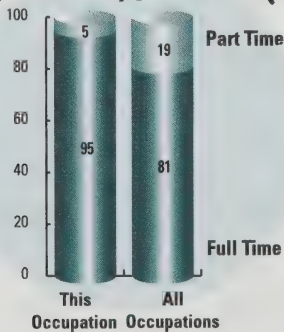
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Contractors and Supervisors, Trades and Related Workers

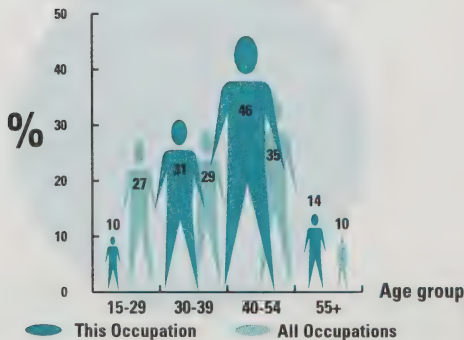
Where They Work



Type of Employment



Distribution by Age



At Work

These contractors and supervisors work in machine shops and in companies involved in structural metal, platework and metal products manufacturing, fabrication and erecting, construction, and printing and publishing; for trade contractors; and for a wide range of organizations. They supervise, coordinate and schedule the activities of the following workers:

- machinists, machining and tooling inspectors, and tool and die makers;
- electricians, electrical power line and cable workers, telecommunications line and cable workers and installation and repair workers, and cable television service and maintenance technicians;
- plumbers, steam fitters, pipefitters, sprinkler system installers and gas fitters;
- sheet metal workers, boilermakers, structural metal and platework fabricators and fitters, ironworkers, skilled welders, blacksmiths and die setters;
- carpenters and related workers;
- machinery and transportation equipment, motor vehicle and other mechanics;
- crane operators; drillers and blasters in surface mining, quarrying and construction; heavy equipment operators; longshore workers; public works maintenance equipment operators; railway track maintenance workers; and water well drillers;
- workers who produce camera work, printing plates and cylinders; process film; print text and illustrations; and bind and finish printed products; and
- masons, plasterers, construction workers, installers, repairers and servicers.

Education, Training & Experience

- These contractors and supervisors usually require a high school diploma. Many recent entrants have a trade/vocational certificate or a community college diploma.
- They need several years' experience as a qualified tradesperson in a relevant trade.
- They may require provincial trade certification.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

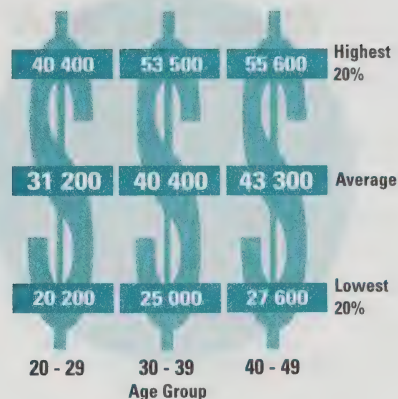
In These Occupations...

- 189,000 people were employed in 1998, an increase of 11.7% from 1988. After employment gains of 11.1% from 1988 to 1993, employment growth slowed to 0.6% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- these supervisors oversee workers in a wide variety of trades.
- 5% work part-time, well below the average of 19% for all occupations.
- 60% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 5% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 3.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.

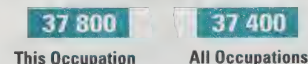
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are well above average, although earnings are at the average level.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to exceed the number of qualified job seekers.
- New techniques and increasing skill requirements in many trades mean that these supervisors will need a corresponding increase in skills.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the construction industry.

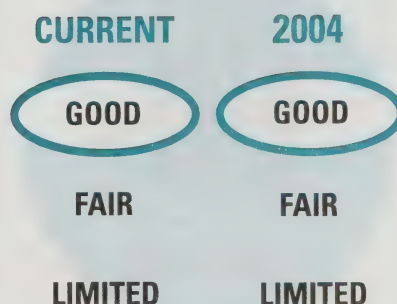
Earnings



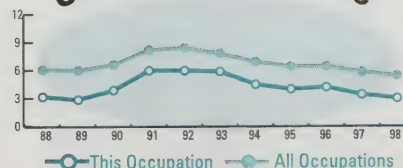
Overall Average for All Ages (15+)



Work Prospects



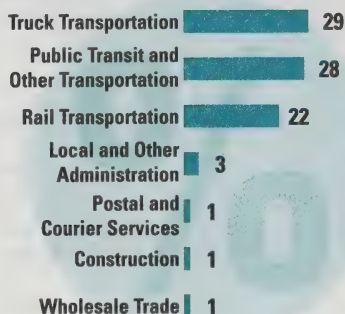
Unemployment Rate



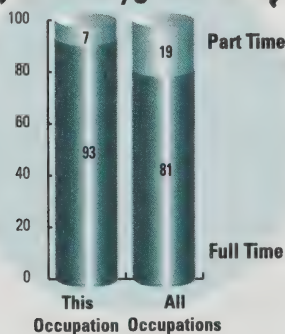
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Supervisors, Railway and Motor Transportation Occupations

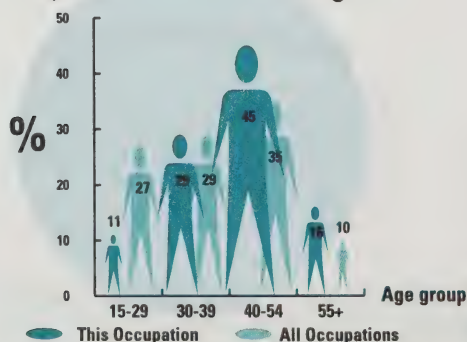
Where They Work



Type of Employment



Distribution by Age



At Work

These supervisors work for government, railway, motor transportation and ground transit companies.

- Supervisors of railway transport operations supervise, coordinate and schedule the activities of workers who operate trains, drive locomotives in railway yards and perform other duties related to railway operations. They also train staff in job duties, safety procedures and company policy.
- Supervisors of motor transport and other ground transit operators supervise, coordinate and schedule the activities of workers who operate trucks, buses, subway trains, light rail transit, taxicabs and other transport vehicles.
- Bus dispatchers dispatch bus drivers and monitor routes to make sure that drivers meet schedules. They also resolve operating problems.
- Subway traffic controllers operate and monitor signal and track switch control panels.

Education, Training & Experience

- These supervisors usually must have a high school diploma. Many recent entrants have a high school diploma.
- They usually require several years' experience in their industry, either in railway operations or as drivers of motor transport or ground transport equipment.
- Supervisors in railway transport operations require various railway operating certificates.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

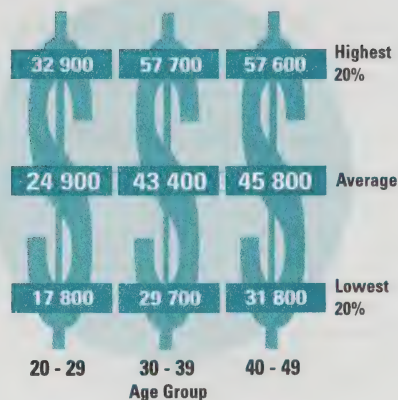
In These Occupations...

- 28,000 people were employed in 1998, an increase of 21.4% from 1988. After employment gains of 12.3% from 1988 to 1993, employment growth slowed to 8.2% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 75% work in motor transport and other ground transport and 25% work in railway transport operations.
- 7% work part-time, well below the average of 19% for all occupations.
- 7% are self-employed, well above the average of 17% for all occupations.
- 9% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 2.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to other technical, paraprofessional and skilled occupations and to other occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are well above average, although earnings are at the average level.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The increasing importance of electronic tracking systems will require these supervisors to develop information system skills.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the public transit and truck transportation industries.

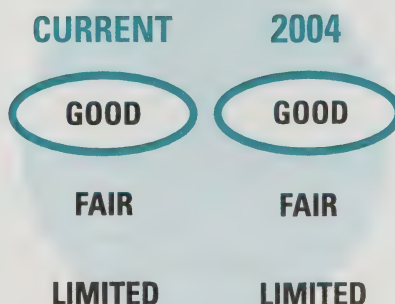
Earnings



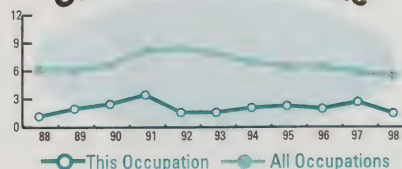
Overall Average for All Ages (15+)



Work Prospects



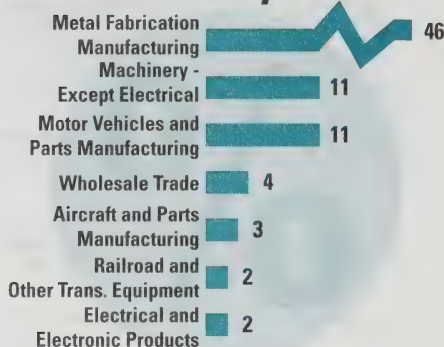
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Machinists and Related Occupations

Where They Work



At Work

People in this group work in machinery, equipment, motor vehicle, automotive parts, aircraft and other metal products manufacturing companies, and in machine, tool and die and mould making shops.

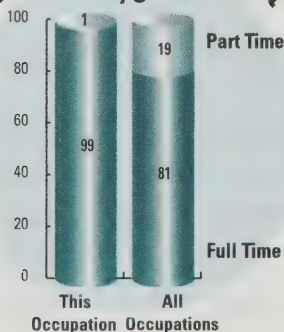
- Machinists set up and operate a variety of machine tools including computer numerically controlled tools to perform precision-machining operations.
- Tool and die makers make, repair and modify custom-made, prototype and special tools, dies, jigs, fixtures and gauges using a variety of machine tools and precise measuring instruments.
- Machining and tooling inspectors inspect machined parts and tooling to maintain quality control standards.

This occupational group also includes mould makers and pattern makers.

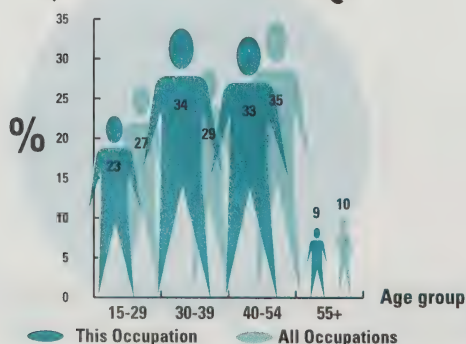
Education, Training & Experience

- People in this group require secondary school education. Many recent entrants have a trade/vocational certificate.
- They can gain trade certification through apprenticeship or a combination of experience and courses in their trade.
- Trade certification is usually available in most provinces, but may not be compulsory in some provinces and territories.
- Qualified machinists and tool and die makers may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.

Type of Employment



Distribution by Age



*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

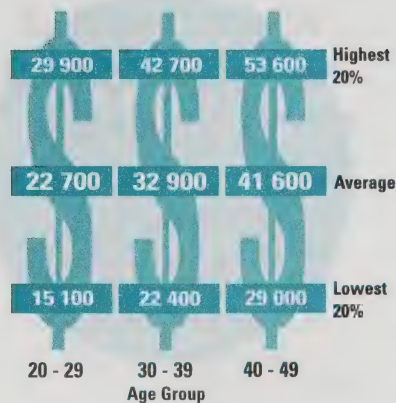
In These Occupations...

- 63,000 people were employed in 1998, an increase of 3.8% from 1988. After declining 9.7% over the 1988 to 1993 period, employment increased 15.0% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 75% are machinists and machining and tooling inspectors and 25% are tool and die makers.
- 1% work part-time, well below the average of 19% for all occupations.
- 3% are self-employed, well below the average of 17% for all occupations.
- 4% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4.0% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.

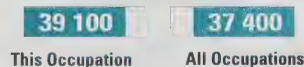
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the non-electrical machinery and metal fabrication industries.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

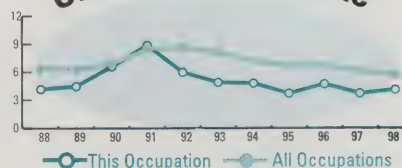
FAIR

FAIR

LIMITED

LIMITED

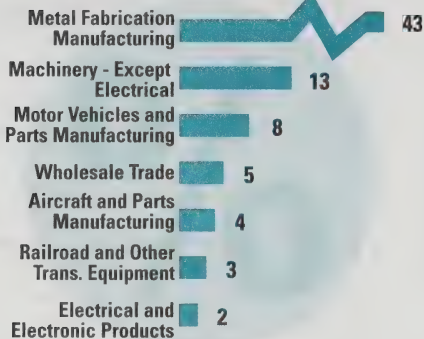
Unemployment Rate



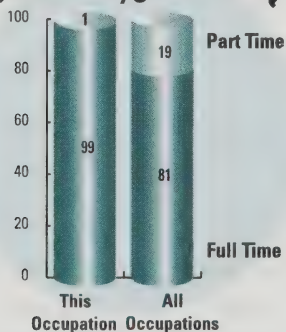
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Machinists and Machining and Tooling Inspectors

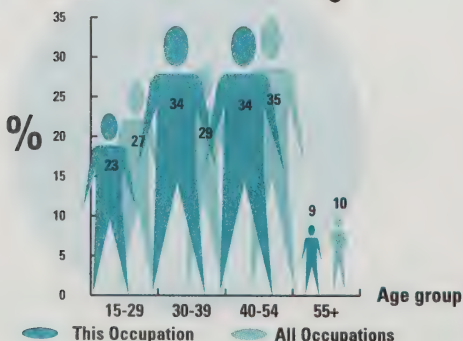
Where They Work



Type of Employment



Distribution by Age



At Work

People in these occupations work in machinery, equipment, motor vehicle, automotive parts, aircraft and other metal products manufacturing companies, and in machine shops.

- Machinists set up and operate a wide variety of machine tools to cut or grind metal and similar materials into parts or products with precise dimensions.
- Machining and tooling inspectors inspect machined parts and tooling to maintain quality control standards.

Education, Training & Experience

- People in these occupations usually require secondary school education. Many recent entrants have a trade/vocational certificate.
- To gain trade certification, they must either complete a four-year apprenticeship program or have a combination of over four years' work experience and some college or industry courses in machining.
- Trade certification is available, but not compulsory, in all provinces and territories.
- Qualified machinists may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- Machining and tool inspectors must have several years' experience as machinists, tool and die makers or machining tool operators.
- With experience, people in these occupations may progress to supervisory positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

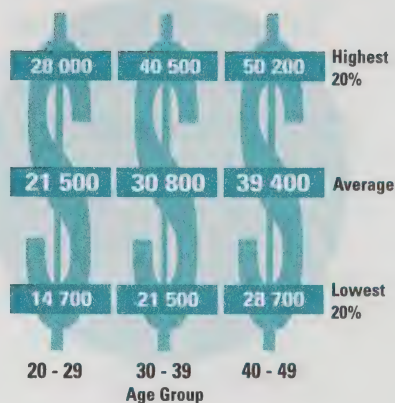
In These Occupations...

- 47,000 people were employed in 1998, an increase of 3.9% from 1988. After declining 8.9% over the 1988 to 1993 period, employment increased 14.0% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 1% work part-time, well below the average of 19% for all occupations.
- 3% are self-employed, well below the average of 17% for all occupations.
- 4% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.

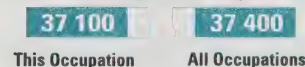
National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The work of machinists continues to be transformed by the increasing use of sophisticated numerical control systems.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the non-electrical machinery and metal fabrication industries.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

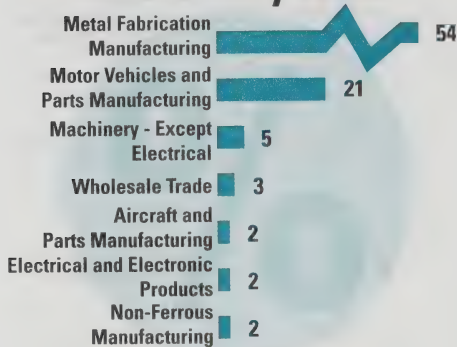
Unemployment Rate



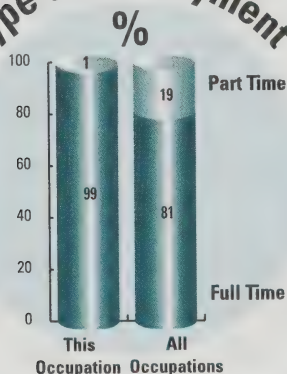
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Tool and Die Makers

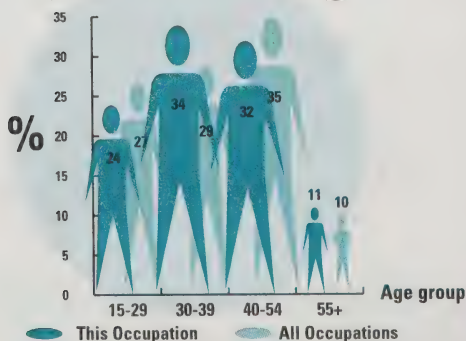
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupation work in manufacturing industries and in tool and die, mould making and machine shops. They make, repair and modify custom-made, prototype or special tools, dies, jigs, fixtures and gauges that require precise dimensions. Their duties may require them to:

- Read and interpret drawings and specifications of tools, dies, prototypes and models;
- Operate a variety of machine tools to cut, turn, mill, plane, bore, grind and otherwise shape work pieces to prescribed dimensions;
- Machine, fit and assemble castings and other parts to make metal patterns, core boxes and match plates; and
- Machine, fit and assemble parts to make metal moulds for plastic injection moulding or other production processes.

This occupation also includes pattern makers and metal mould makers.

Education, Training & Experience

- People in this occupation usually require secondary school education. Many recent entrants have a trade/vocational certificate.
- To gain trade certification, tool and die makers must either complete a four- or five-year tool and die making apprenticeship program or have a combination of over five years' work experience and some high school, college or industry courses in tool and die making.
- Tool and die making trade certification is available, but not compulsory, in all provinces except Saskatchewan and the territories.
- Qualified tool and die makers may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- Mould makers and pattern makers may need to complete apprenticeships or college programs in their area of expertise.
- Mould making and pattern making trade certification is available, but not compulsory, in Ontario and Quebec.
- With experience, these workers can progress to supervisory positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

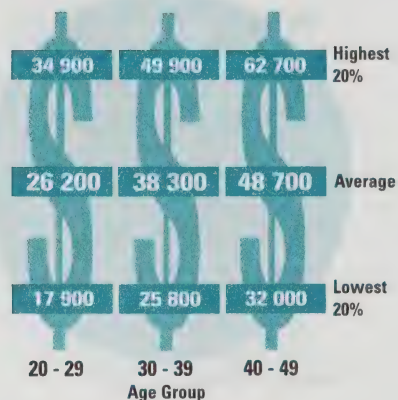
In These Occupations...

- 16,000 people were employed in 1998, an increase of 3.6% from 1988. After declining 12.0% over the 1988 to 1993 period, employment increased 17.7% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 1% work part-time, well below the average of 19% for all occupations.
- 3% are self-employed, well below the average of 17% for all occupations.
- 3% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 1.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good" since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the metal fabrication and non-electrical machinery industries.

Earnings



Overall Average for All Ages (15+)

44,900

This Occupation

37,400

All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

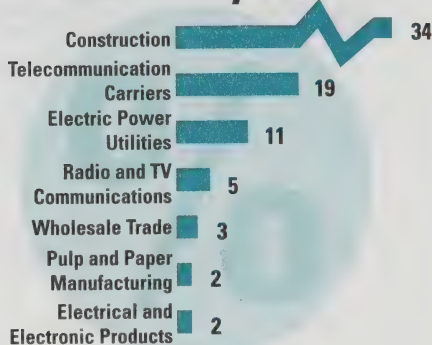
Unemployment Rate



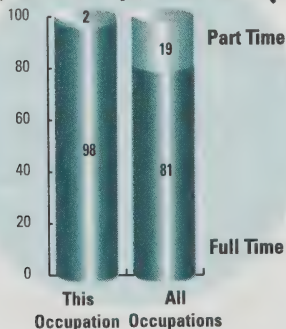
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Electrical Trades and Telecommunications Occupations

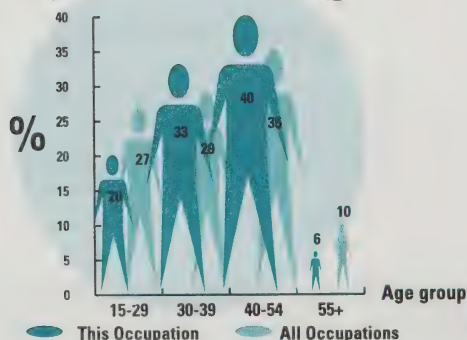
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for electrical contractors; maintenance departments of buildings, factories, plants, mines and shipyards; electrical power generation, transmission and distribution and cable television companies; public utilities; and telephone and other telecommunications services and organizations. In general, they perform installing, testing, troubleshooting and repairing activities.

- Power system electricians work on electric power distribution system equipment and apparatus.
- Telecommunications line and cable workers work on lines and cables.
- Telecommunications installation and repair workers work on telephones and telephone switching, computer, data, voice and other telecommunications equipment.
- Cable television service and maintenance technicians work on cable television signal and associated equipment in buildings.
- Electrical power line and cable workers construct, maintain and repair overhead and underground electrical power transmission and distribution systems.

Education, Training & Experience

- People in this group usually require a high school diploma. Most young workers have a trade/vocational certificate or a community college diploma.
- To gain trade certification, most people in this group usually complete an apprenticeship program or have a combination of experience and courses. Trade certification is required for some occupations in some or all areas of Canada.
- Most telecommunications occupations in this group require a high school diploma. Many employers request a trade/vocational or community college diploma. Professional certification is available in most telecommunications occupations in this group.
- Qualified tradespersons may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- In some occupations, people need college or other courses in electronics and electrical technology, experience or on-the-job training or apprenticeship training.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

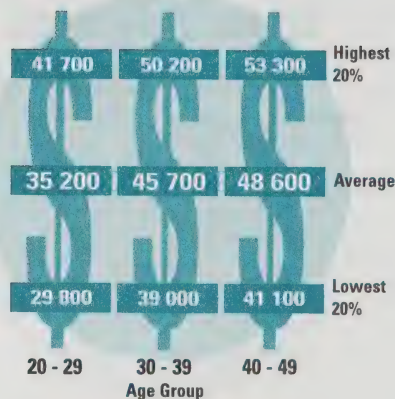
In These Occupations...

- 122,000 persons were employed in 1998, a decrease of 8.5% from 1988. Most of the decline occurred from 1988 to 1993 when employment decreased 6.0%. Employment also declined 2.6% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the last ten years and 8.2% over the last five years.
- 35% of workers are electricians of various types; 23% are industrial electricians; and 20% are telecommunications installation and repair workers.
- 2% of workers are part-time, well below the average of 19% for all occupations.
- 5% of workers are self-employed, well below the average of 17% for all occupations.
- 4% of workers are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 7.3% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", as a result of long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Conditions are likely to vary among the occupations in this group. There may be particularly good opportunities for powerline workers.
- Continued fierce competition and significant productivity gains in the telecommunications industry will lead to continuing restructuring in the industry. Work in telecommunications installation is likely to be increasingly outsourced.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the construction and telecommunications carriers industries.

Earnings



Overall Average for All Ages (15+)

45 700	37 400
This Occupation	All Occupations

Work Prospects

CURRENT 2004

GOOD

GOOD

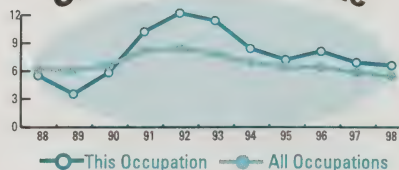
FAIR

FAIR

LIMITED

LIMITED

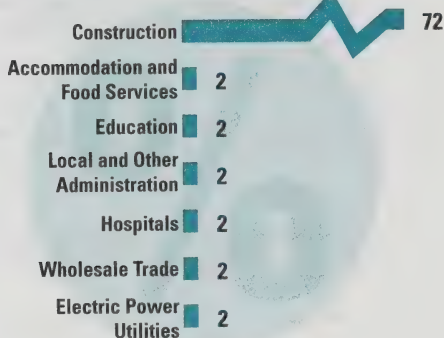
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Electricians (Except Industrial and Power Systems)

Where They Work

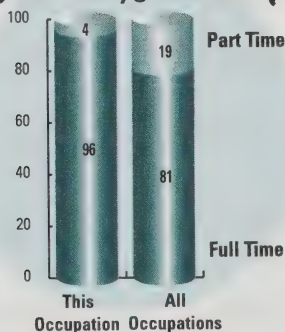


At Work

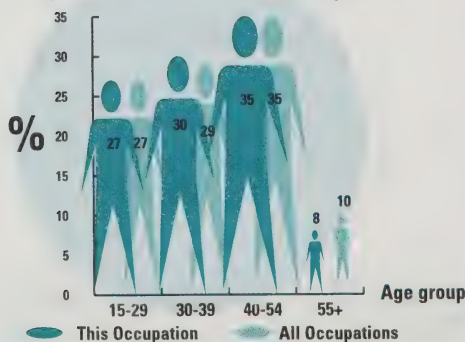
These electricians work for electrical contractors and maintenance departments of buildings and other organizations. Their duties may require them to:

- read and interpret drawings and electrical code specifications to determine wiring layouts;
- install, replace and repair lighting fixtures and electrical control, fire alarm and electrical distribution equipment such as switches, relays and circuit breaker panels;
- connect wires to fixtures to form circuits and test circuits using test equipment to ensure compatibility and safety;
- troubleshoot and isolate faults in electrical and electronic systems; and
- connect electrical power to sound and visual communication equipment, signalling devices and heating and cooling systems.

Type of Employment



Distribution by Age



Education, Training & Experience

- These electricians must complete high school. Most young workers have a trade/vocational certificate or a community college diploma.
- They must usually complete a four- to five-year apprenticeship program.
- Trade certification is compulsory for construction electricians in all provinces except Manitoba. It is available, but voluntary, in Manitoba, the Northwest Territories and the Yukon.
- Trade certification is compulsory for domestic and rural electricians in Ontario and Quebec. It is available, but voluntary, in Newfoundland.
- According to the International Brotherhood of Electrical Workers, these electricians require a Construction and Maintenance Licence.
- Qualified electricians may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- With experience, these electricians may progress to supervisory positions. Many electricians are self-employed.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

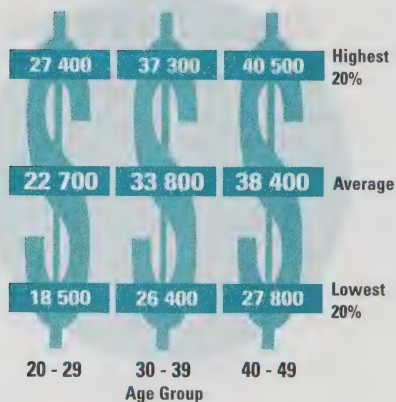
In These Occupations...

- 43,000 persons were employed in 1998, a decrease of 6.1% from 1988. However, after declining 8.4% over the 1988 to 1993 period, employment increased 2.5% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the last ten years, and 8.2% over the last five years.
- 4% of these electricians are part-time, well below the average of 19% for all occupations.
- 10% of these electricians are self-employed, compared to an average of 17% for all occupations.
- 2% of these electricians are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 12.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to other technical, paraprofessional and skilled occupations and to other occupations in the trades, transport and equipment operation sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Limited", as a result of long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Continued economic growth will increase opportunities in this highly cyclical occupation. Wiring of home security systems and electronic house management systems are new areas of work for these electricians.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the construction industry.

Earnings



Overall Average for All Ages (15+)

38 400	37 400
This Occupation	All Occupations

Work Prospects

CURRENT 2004

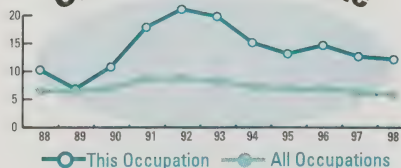
GOOD GOOD

FAIR FAIR

LIMITED

LIMITED

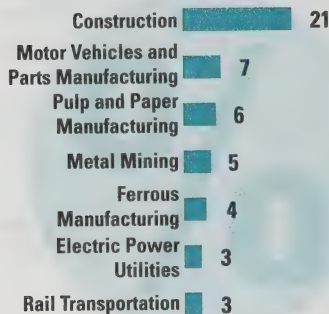
Unemployment Rate



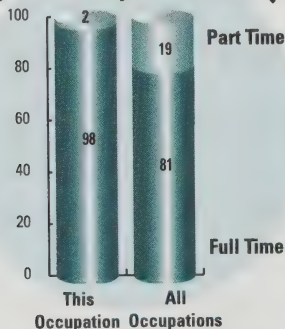
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Industrial Electricians

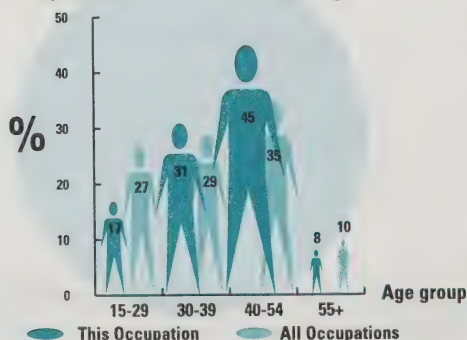
Where They Work



Type of Employment



Distribution by Age



At Work

These electricians work for maintenance departments of factories, plants, mines, shipyards and other industrial establishments. Their duties may require them to:

- read and interpret drawings and electrical code specifications to determine wiring layouts of industrial electrical equipment installations;
- install, replace and repair electrical wiring, receptacles, switch boxes, conduits, feeders, cable assemblies, lighting fixtures and other electrical components;
- test equipment and components for continuity, current, voltage and resistance;
- maintain, repair, install and test switchgears, transformers, switchboard meters, regulators and reactors; and
- maintain, repair, test and install electrical motors, generators, industrial storage batteries and hydraulic and pneumatic electrical control systems.

This occupation also includes marine, mill, mine and plant electricians.

Education, Training & Experience

- Industrial electricians usually require secondary school education. Most young workers have a trade/vocational certificate or a community college diploma.
- To gain trade certification, they must usually either complete a four- or five-year industrial electrician apprenticeship program or have a combination of over five years' work experience and some high school, college or industry courses in industrial electrical equipment.
- Trade certification is compulsory in Prince Edward Island, Quebec and the Yukon. It is available, but voluntary, in Newfoundland, Nova Scotia, New Brunswick, Ontario and Manitoba.
- According to the International Brotherhood of Electrical Workers, electrical contractors in Canada require a Construction and Maintenance Licence.
- Qualified industrial electricians may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- Marine electricians in New Brunswick may have to complete a marine electrician apprenticeship program.
- Trade certification is available but voluntary in this province.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- Mine electricians in Nova Scotia may have to complete a mine electrician apprenticeship program.
- With experience, these electricians may progress to supervisory positions.

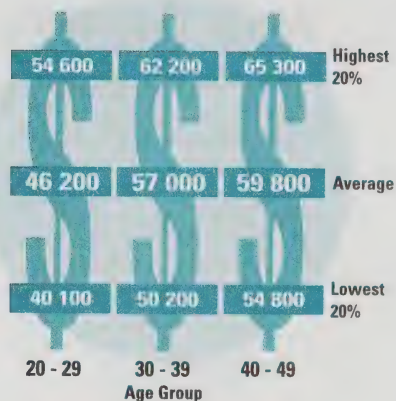
In These Occupations...

- 28,000 persons were employed in 1998, a decrease of 9.0% from 1988. Most of the decline occurred from 1993 to 1998 when employment decreased 8.6%. In comparison, employment in all occupations grew 12.3% over the last ten years, and 8.2% over the last five years.
- 2% of these electricians are part-time, well below the average of 19% for all occupations.
- 2% of these electricians are self-employed, well below the average of 17% for all occupations.
- 1% of these electricians are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the trades, transport and equipment operation sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", as a result of long-term employment losses, although earnings are well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Production technologies involving robotics and automated transfer machinery have created new areas of work for industrial electricians.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the construction industry.

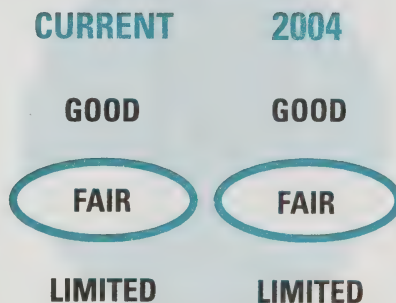
Earnings



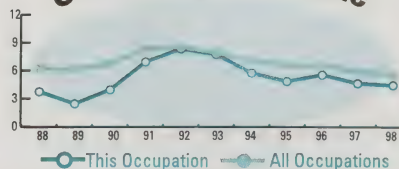
Overall Average for All Ages (15+)

50 900	37 400
This Occupation	All Occupations

Work Prospects



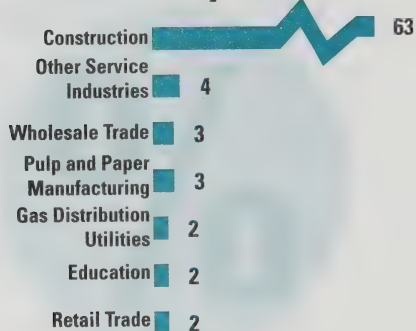
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Plumbers, Pipefitters and Gas Fitters

Where They Work



At Work

People in this group work for maintenance departments of factories, plants and similar organizations; trade contractors; and gas utility and gas servicing companies. They may also be self-employed.

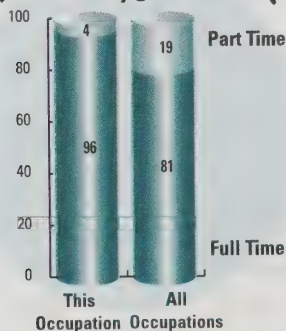
- Plumbers install, repair and maintain pipes, plumbing fixtures and other plumbing equipment for water distribution and waste water disposal in residential, commercial and industrial buildings.
- Steam fitters and pipefitters lay out, assemble, fabricate, maintain and repair piping systems carrying water, steam, chemicals and fuel in heating, cooling, lubricating and other process piping systems.
- Sprinkler system installers fabricate, install, test, maintain and repair water, foam, carbon dioxide and dry chemical fire protection sprinkler systems.
- Gas fitters install, inspect, repair and maintain gas lines, meters, gas furnaces, appliances and other gas equipment in residential, commercial and industrial buildings.

This occupational group also includes marine pipefitters and gas customer servicers.

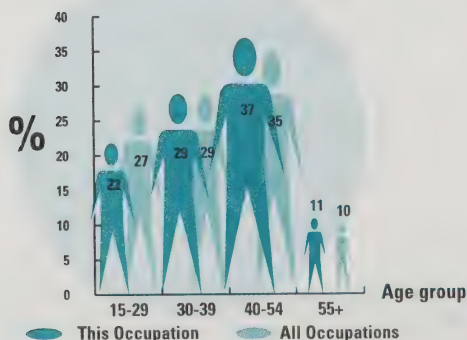
Education, Training & Experience

- People in this group must have some high school or a high school diploma. Many recent entrants have a trade/vocational certificate.
- To gain trade certification, people in this group must complete an apprenticeship program, or have a combination of experience and high school, college or industry courses. Trade certification may be compulsory or voluntary depending on the province or territory.
- Qualified tradespersons may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- Gas fitters require a licence in some provinces.

Type of Employment



Distribution by Age



Check out the 'big picture' in
"World of Work: Overviews and Trends"

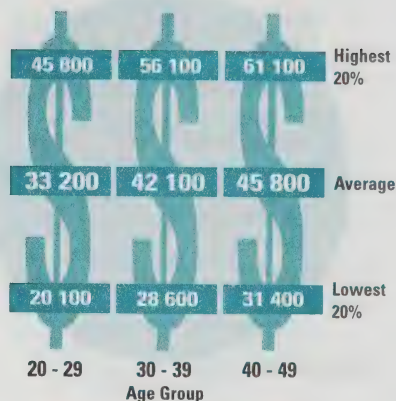
In These Occupations...

- 53,000 people were employed in 1998, an increase of 9.8% from 1988. After declining 8.9% over the 1988 to 1993 period, employment increased 20.6% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 56% are plumbers; 34% are steam fitters, pipefitters and sprinkler system installers; and 10% are gas fitters.
- 4% work part-time, well below the average of 19% for all occupations.
- 16% are self-employed, compared to an average of 17% for all occupations.
- 1% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 10.3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.
- employment changes tend to mirror movements in overall economic activity.

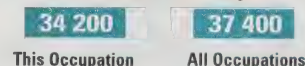
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, the outlook is expected to improve to "Good". The number of job openings in these occupations is expected to increase more rapidly than the number of qualified job seekers, mostly due to a significant level of retirements and strong employment growth in these occupations.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the construction industry.

Earnings



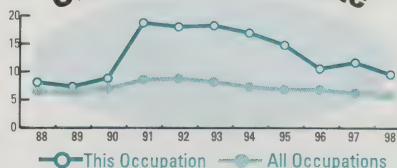
Overall Average for All Ages (15+)



Work Prospects



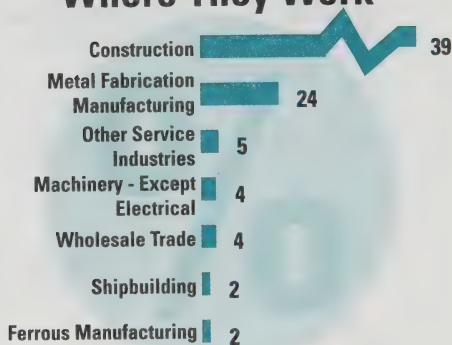
Unemployment Rate



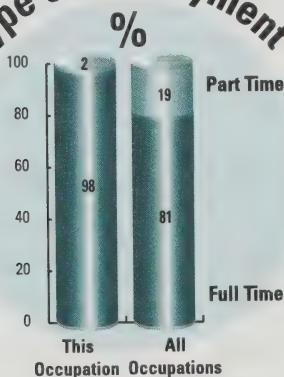
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Metal Forming, Shaping and Erecting Occupations

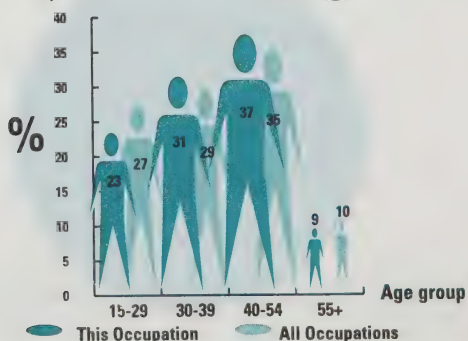
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for construction contractors; sheet metal fabrication and welding shops; manufacturers of sheet metal and fabricated metal products, structural steel, boilers, platework, aircraft, heavy machinery and transportation equipment, and sheet metal work, welding and ironwork contractors; and ship building companies.

- Sheet metal workers fabricate, assemble, install and repair sheet metal products.
- Boilermakers and structural metal and platework fabricators and fitters fabricate, assemble, erect and repair boilers, tanks, pressure vessels, platework and other heavy metal products and structures.
- Ironworkers fabricate, erect, hoist, install, repair and service structural ironwork, precast concrete, curtain walls, ornamental iron and other metals used in the construction of buildings, bridges and other structures.
- Blacksmiths forge chains, wrought iron fixtures, agricultural implements, structural components and other metal items.
- Die setters select dies and set up forging machines.

Education, Training & Experience

- People in most of these occupations usually require secondary school education. Many recent entrants have a trade/vocational certificate.
- To gain certification, they must usually complete an apprenticeship or have a combination of experience and trade courses. Trade certification is available in most provinces and territories.
- Qualified tradespersons may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- Blacksmiths and die setters may require a high school diploma and several years' forging machine operator experience.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

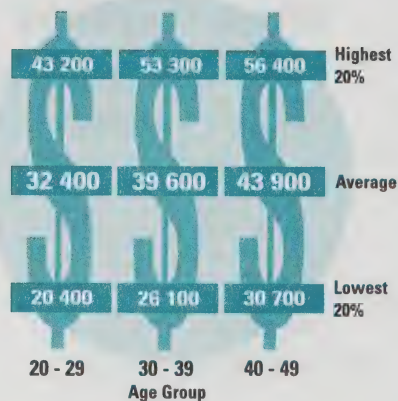
In These Occupations...

- 72,000 people were employed in 1998, a decrease of 9.6% from 1988. However, after declining 23.2% over the 1988 to 1993 period, employment increased 17.6% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 43% are sheet metal workers; 22% are structural metal and platework fabricators and fitters; and 20% are ironworkers.
- 2% work part-time, well below the average of 19% for all occupations.
- 7% are self-employed, well below the average of 17% for all occupations.
- 3% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 12.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities are well below average, although earnings are at the average level.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Increasing use of plastics and composite substitutes and more efficient production technologies are decreasing opportunities in these occupations.

Earnings



Overall Average for All Ages (15+)

36,400	37,400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



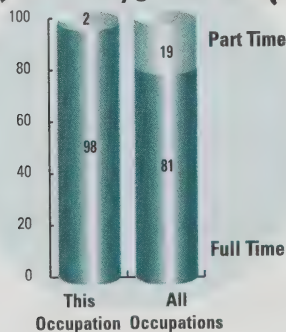
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Sheet Metal Workers

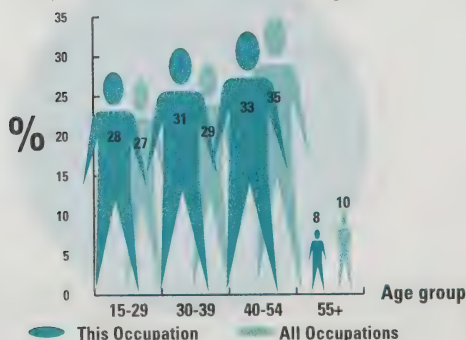
Where They Work



Type of Employment



Distribution by Age



At Work

Sheet metal workers work for sheet metal fabrication shops, sheet metal products manufacturing companies and sheet metal work contractors. Their duties may require them to:

- lay out, measure and make sheet metal according to drawings and templates;
- operate light metalworking machines such as shears, brakes, punches and drill presses to cut, bend, punch, drill, shape and straighten sheet metal;
- operate laser and plasma cutting equipment to cut sheet metal;
- fit and join sheet metal using riveting, welding, soldering and similar equipment to fabricate products such as ventilation shafts, eavestroughs, partition frames, roof decking and sheet metal buildings; and
- inspect quality and installation to make sure that the product conforms to specifications.

Education, Training & Experience

- Sheet metal workers usually require secondary school education. Many recent entrants have a trade/vocational certificate.
- To obtain trade certification, they must usually either complete a three- to five-year apprenticeship program or have a combination of over four years' work experience and some high school, college or industry courses in sheet metal working.
- Trade certification is compulsory in Quebec, Ontario, Saskatchewan, Alberta and British Columbia. It is available, but voluntary, in all other provinces and territories.
- Qualified sheet metal workers may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- With experience, sheet metal workers may progress to supervisory positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

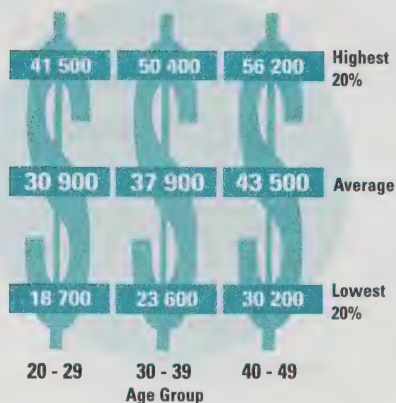
In These Occupations...

- 31,000 people were employed in 1998, a decrease of 19.6% from 1988. Most of the decline occurred from 1988 to 1993, when employment decreased 18.9%. Employment declined 0.8% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 2% work part-time, well below the average of 19% for all occupations.
- 9% are self-employed, compared to an average of 17% for all occupations.
- 3% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 10.2% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations.
- the average earnings are comparable to other technical, paraprofessional and skilled occupations and to other occupations in the trades, transport and equipment operation sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.

Earnings



Overall Average for All Ages (15+)

34 900

This Occupation

37 400

All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

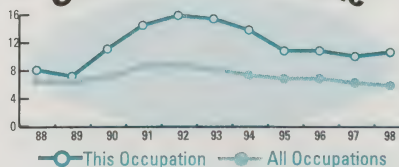
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Carpenters and Cabinetmakers

Where They Work

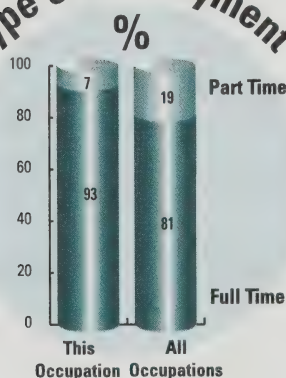


At Work

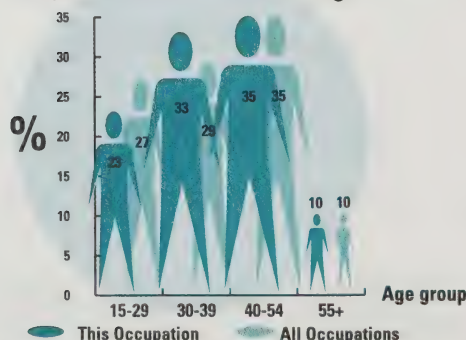
People in this group work for construction companies; carpentry and cabinetmaking contractors; maintenance departments of factories, plants and other organizations; and furniture manufacturing and repair companies. They may also be self-employed.

- Carpenters construct, erect, install, maintain and repair structures of wood, wood substitutes and other materials. They build foundations, install floor beams, lay subflooring, erect walls and roof systems, and fit and install doors, stairs, mouldings and other decorative work.
- Carpenters may specialize in residential, industrial or commercial construction and in finishing work, renovations and restorations, or perform rough, maintenance or general carpentry.
- Cabinetmakers construct and repair wooden cabinets, furniture, fixtures and related products. They operate woodworking machines such as power saws, jointers, mortisers and shapers, and use hand tools to cut, shape and form components and parts and apply finishes to constructed products.
- Cabinetmakers also restyle wooden furniture and fixtures and construct built-in cabinets.

Type of Employment



Distribution by Age



Education, Training & Experience

- Carpenters or cabinetmakers usually require secondary school education. Many recent entrants have a high school diploma.
- To gain trade certification, they usually have an apprenticeship or a combination of experience and some courses in their field of work.
- Trade certification is available, but voluntary, in most provinces and territories. In Quebec, trade certification for carpenters is compulsory.
- Qualified carpenters and cabinetmakers may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

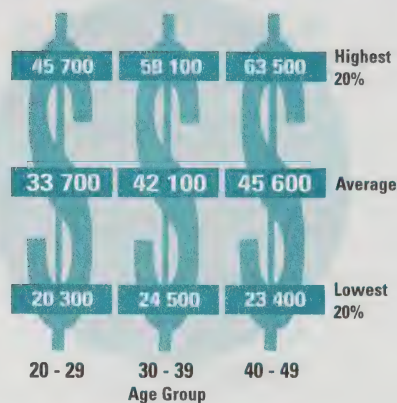
In These Occupations...

- 113,000 people were employed in 1998, a decrease of 9.9% from 1988. However, after declining 19.5% over the 1988 to 1993 period, employment increased 12.0% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 86% are carpenters and 14% are cabinetmakers.
- 7% work part-time, well below the average of 19% for all occupations.
- 34% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the past ten years.
- 2% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 14.2% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.
- the average earnings are among the lowest for technical, paraprofessional and skilled occupations but are comparable to those for other occupations in the trades, transport and equipment operation sectors.
- employment changes tend to mirror movements in overall economic activity.

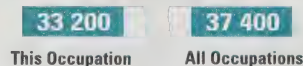
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Use of more efficient tools and building methods is affecting the skill requirements of carpenters. Factory-produced cabinets are reducing the need for cabinetmakers.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the construction industry.

Earnings

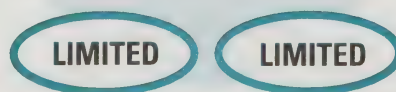


Overall Average for All Ages (15+)



Work Prospects

CURRENT	2004
GOOD	GOOD
FAIR	FAIR



Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Carpenters

Where They Work



At Work

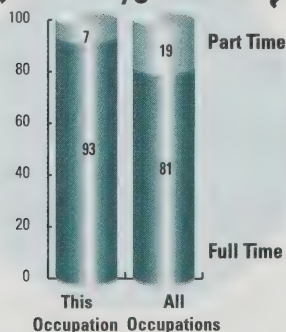
Carpenters work for construction companies, carpentry contractors, offices, and maintenance departments of factories, plants and other organizations. They may also be self-employed. Their duties may require them to:

- read and interpret blueprints, drawings and sketches;
- prepare layouts to conform to building codes;
- measure, cut, shape, assemble and join materials made of wood, wood substitutes and other materials;
- build foundations, install floor beams, lay subflooring and erect walls and roof systems;
- fit and install trim such as doors, stairs, moulding and hardware; and
- maintain, repair and renovate residences and wooden structures in mills, mines, hospitals, industrial plants and other organizations.

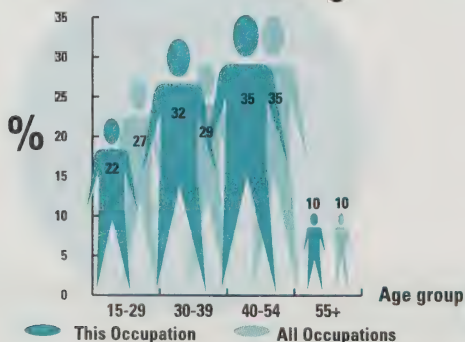
Education, Training & Experience

- Carpenters usually require secondary school education. Many recent entrants have a high school diploma.
- To gain trade certification, carpenters must usually either complete a three- to four-year apprenticeship program or have a combination of over four years' work experience and some high school, college or industry courses in carpentry.
- Trade certification is compulsory in Quebec and available, but voluntary, in all other provinces and territories.
- Qualified carpenters may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- With experience, carpenters may progress to supervisory positions.

Type of Employment



Distribution by Age



*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

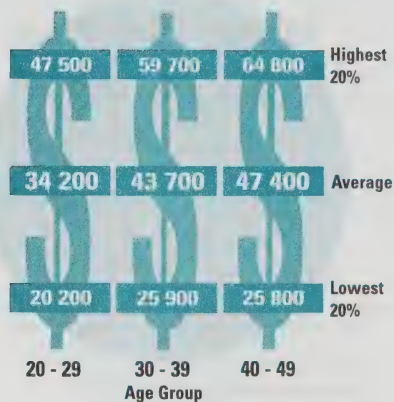
In These Occupations...

- 97,000 people were employed in 1998, a decrease of 15.9% from 1988. However, after declining 21.1% over the 1988 to 1993 period, employment increased 6.6% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 7% work part-time, well below the average of 19% for all occupations.
- 33% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed in this occupation has increased significantly over the last ten years.
- 2% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 15.3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- New tools, such as nailers and sanders with electronic speed control, reduce fatigue and make carpenters more efficient. New building techniques, such as plastic concrete forms, also affect the skill requirements and the demand for carpenters.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the construction industry.

Earnings



Overall Average for All Ages (15+)

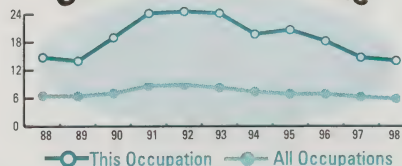
34 400	37 400
This Occupation	All Occupations

Work Prospects

CURRENT	2004
GOOD	GOOD
FAIR	FAIR



Unemployment Rate



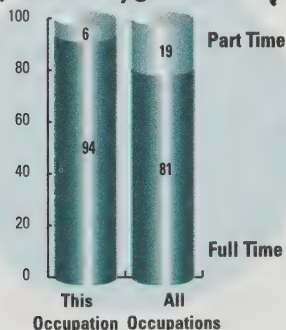
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Cabinetmakers

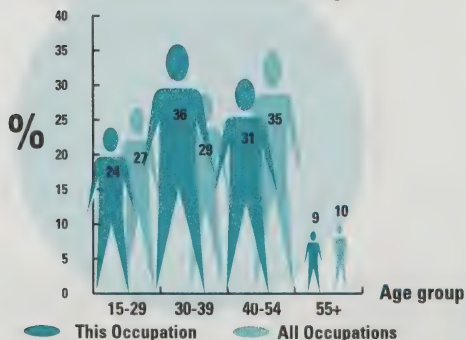
Where They Work



Type of Employment %



Distribution by Age



At Work

Cabinetmakers work for furniture manufacturing and repair companies, construction companies and cabinetmaking contractors. They may also be self-employed. Their duties may require them to:

- study plans, specifications and drawings, or prepare specifications;
- operate woodworking machines such as power saws, jointers, mortisers and shapers, and use hand tools to cut, shape and form parts and components;
- trim joints and fit parts and subassemblies together to form complete units using glue and clamps, and reinforce joints using nails, screws and other fasteners;
- sand surfaces and apply veneer stain or polish to finished products; and
- repair and restyle wooden furniture, fixtures and related products.

Education, Training & Experience

- Cabinetmakers usually require secondary school education. Many recent entrants have a high school diploma.
- To gain trade certification, cabinetmakers must usually either complete a four-year apprenticeship program or have a combination of over four years' work experience and some high school or college courses in cabinetmaking.
- Trade certification is available, but voluntary, in all provinces and territories.
- Qualified cabinetmakers may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- With experience, cabinetmakers may progress to supervisory positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

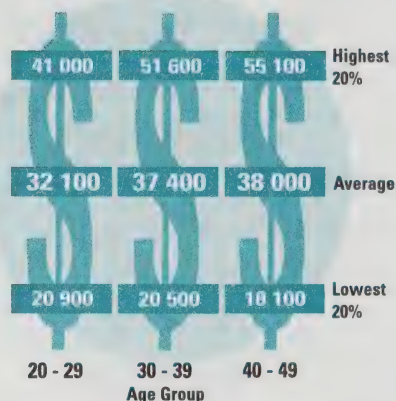
In These Occupations...

- 16,000 people were employed in 1998, an increase of 30.7% from 1988. After declining 9.0% over the 1988 to 1993 period, employment increased 43.7% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 6% work part-time, well below the average of 19% for all occupations.
- 35% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed in this occupation has increased significantly over the last ten years.
- 6% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 7% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are well above average but earnings are well below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Cabinets are increasingly built in factories rather than made to order. The market for made-to-order cabinets will become a specialty market, with room for only the most highly skilled cabinetmakers.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the construction and wood manufacturing industries.

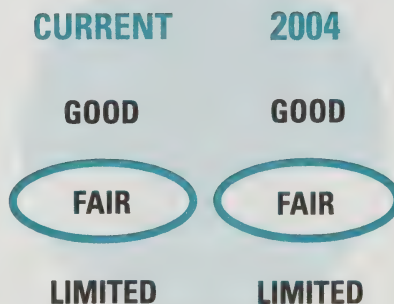
Earnings



Overall Average for All Ages (15+)

29 000	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



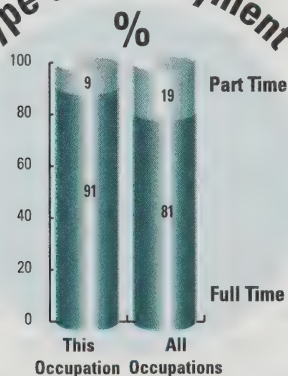
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Masonry and Plastering Trades

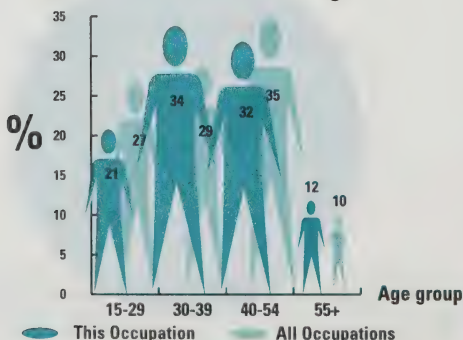
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupational group work for construction companies; brick, stone, refractory, restoration, masonry, plastering, drywalling and lathing contractors; precast concrete products manufacturers; and other organizations. They may also be self-employed.

- Brick and stone masons lay bricks, concrete blocks, stone and similar materials to construct and restore walls, foundations, fireplaces and other structures in residential, commercial, industrial and institutional construction. They may also build patios, garden walls and other decorative installations.
- Cement masons install, finish, maintain and restore various masonry surfaces.
- Restoration masons restore various masonry surfaces.
- Tiles setters cover interior and exterior walls, floors and ceilings with ceramic, marble and quarry tile, mosaics and terrazzo. They also produce decorative wall, mural and floor designs.
- Plasterers install, finish, maintain and restore plaster or similar materials to interior and exterior walls, ceilings and building partitions to produce plain and decorative surfaces. They may spray acoustic materials over walls and ceilings.
- Drywall installers and finishers apply drywall sheets to walls and ceilings.
- Lathers install support frameworks for ceiling systems, interior and exterior walls and building partitions.

Education, Training & Experience

- People in this group usually require secondary school education. Many recent entrants have a high school diploma.
- To gain trade certification, they must complete a two- to four-year apprenticeship, depending on their area of work, or have a combination of three or four years' experience and high school, college or industry courses.
- They may require trade certification to work in their province or territory or on federal projects.
- Qualified bricklayers, cement masons and lathers may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.

In These Occupations...

- 38,000 people were employed in 1998, a decrease of 11.4% from 1988. Most of the decline occurred from 1988 to 1993, when employment decreased 7.0%. Employment declined 4.7% from

**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

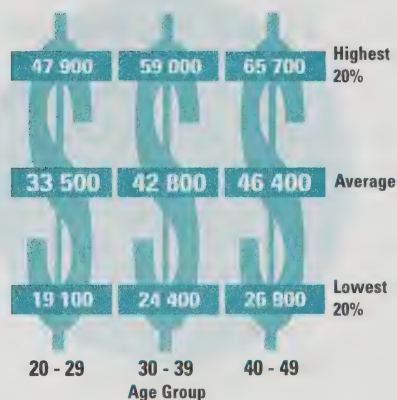
1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

- 43% are plasterers, drywall installers, finishers and lathers; 29% are bricklayers; 16% are cement finishers; and 11% are tilesetters.
- 9% work part-time, well below the average of 19% for all occupations.
- 33% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 1% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 16.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, the outlook is expected to improve to "Fair", as the number of job openings is expected to increase more rapidly than the number of qualified job seekers. The factors contributing to this are above-average growth in the construction sector; a high retirement rate; and little change in the number of non-completers looking for work.
- Changes in technology, better tapes and faster drying plasters have made plastering and drywalling occupations more productive. Workers who develop the skills required by newer techniques will have the best opportunities.
- Almost all of the increase in employment requirements through 2004 for these occupations is expected to occur in the construction industry.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



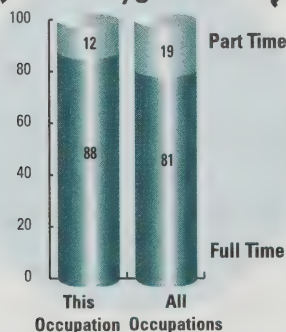
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Other Construction Trades

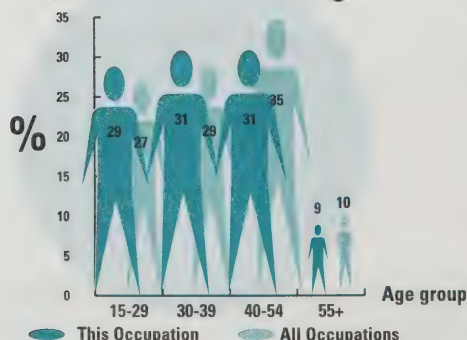
Where They Work



Type of Employment %



Distribution by Age



At Work

People in this group work for carpet outlets; retail service and repair and glass fabrication shops; construction companies; and contractors in roofing, insulation, construction glass installation, painting, floor covering and building maintenance. They may also be self-employed.

- Roofers install, repair and replace roofing systems on low-pitched roofs, and shingles, shakes and other roofing tiles on high-pitched roofs.
- Shinglers install or replace shingles, shakes and roofing tiles on high-pitched roofs.
- Glaziers prepare, install and replace glass in buildings, vehicles, furniture and other products.
- Insulators apply insulation materials to plumbing, heating, cooling and refrigeration systems, piping equipment, pressure vessels and interior surfaces of buildings to prevent or reduce the passage of heat, cold, sound and fire.
- Painters and decorators apply paint, wallpaper and other finishes to interior and exterior surfaces of buildings.
- Floor covering installers install carpet, wood, linoleum, vinyl and other resilient floor coverings, and hardwood floors including strip, block and plank floors.

Education, Training & Experience

- People in this group usually require secondary school education. Many recent entrants have a high school diploma.
- Shinglers need one to two years' on-the-job training.
- Except for shinglers, they may require trade certification in their province or territory of work.
- To gain trade certification, they usually need an apprenticeship or a combination of experience and trade courses.
- Qualified tradespersons in this group may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

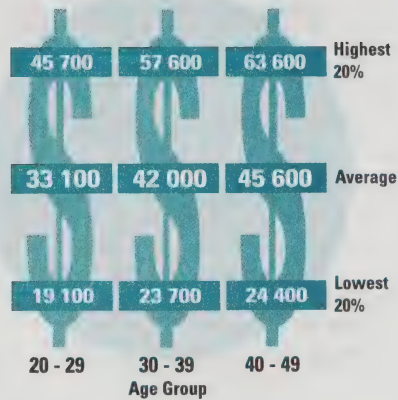
In These Occupations...

- 62,000 people were employed in 1998, an increase of 0.6% from 1988. After declining 7.9% over the 1988 to 1993 period, employment increased 9.2% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 47% are painters and decorators; 19% are roofers and shinglers; and 17% are floor covering installers.
- 12% work part-time, compared to an average of 19% for all occupations.
- 37% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 6% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 15.2% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the construction industry.

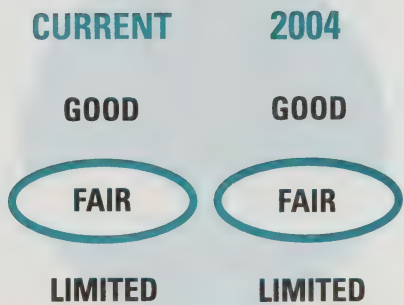
Earnings



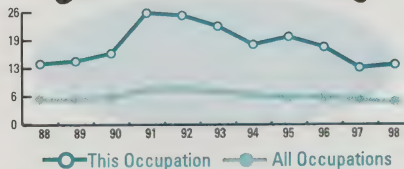
Overall Average for All Ages (15+)



Work Prospects



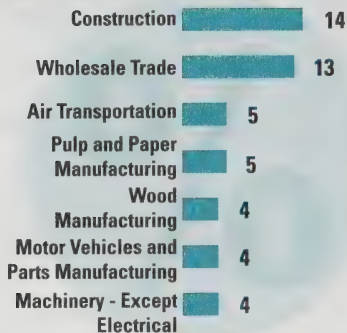
Unemployment Rate



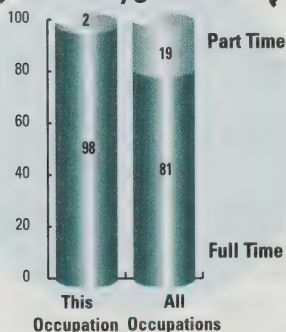
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Machinery and Transportation Equipment Mechanics (Except Motor Vehicle)

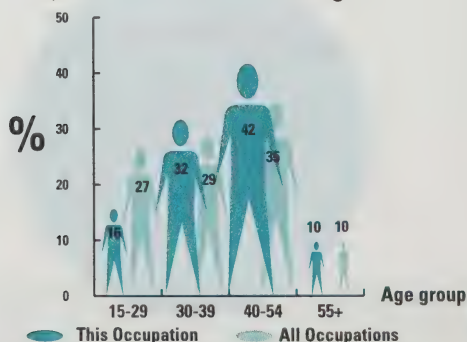
Where They Work



Type of Employment



Distribution by Age



At Work

These mechanics work in manufacturing industries and for utilities, construction contractors, retail organizations, railways, airlines, aircraft maintenance and overhaul companies, and other organizations.

- Construction millwrights and industrial mechanics install and repair stationary industrial machinery.
- Heavy-duty equipment mechanics repair and maintain construction, forestry, mining, material handling and other heavy equipment.
- Refrigeration and air conditioning mechanics install and repair refrigeration, central air conditioning and combined cooling and heating systems in homes, businesses and industry.
- Railway carmen/women inspect and repair railway cars.
- Aircraft mechanics maintain and repair aircraft structures and mechanical and hydraulic systems.
- Aircraft inspectors inspect aircraft and aircraft systems to ensure they meet standards.
- Machine fitters fit, assemble and build heavy industrial machinery and transportation equipment.
- Elevator constructors and mechanics install and repair freight and passenger elevators, escalators and moving walkways.

Education, Training & Experience

- These mechanics usually require secondary school education. Most recent entrants have a trade/vocational certificate or a community college diploma.
- To gain trade certification, elevator constructors and mechanics and refrigeration and air conditioning mechanics must complete a three- to five-year apprenticeship program or have a combination of experience and formal education in their specialty.
- Railway carmen/women and machine fitters must serve an apprenticeship or have on-the-job training.

*Check out the 'big picture' in
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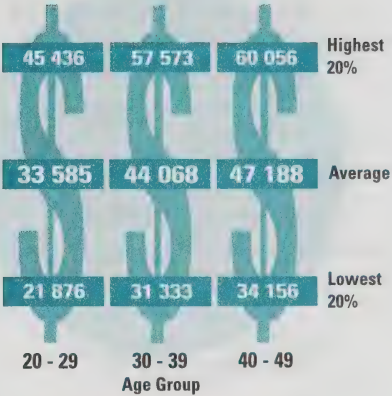
In These Occupations...

- 169,000 people were employed in 1998, an increase of 4.6% from 1988. After declining 6.4% over the 1988 to 1993 period, employment increased 11.7% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 44% are construction millwrights and industrial mechanics; 27% are heavy-duty equipment mechanics; 10% are aircraft mechanics and aircraft inspectors; and 9% are refrigerator and air conditioning mechanics.
- 2% work part-time, well below the average of 19% for all occupations.
- 4% are self-employed, well below the average of 17% for all occupations.
- 1% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4.5% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the trades, transport and equipment operation sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations but are comparable to other occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the construction, non-electrical machinery and wholesale trade industries.

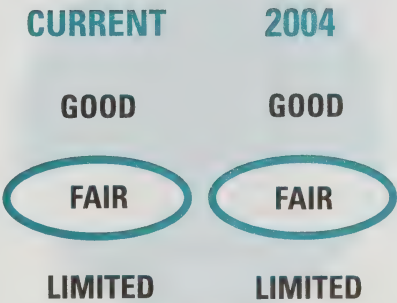
Earnings



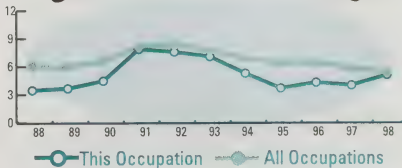
Overall Average for All Ages (15+)



Work Prospects



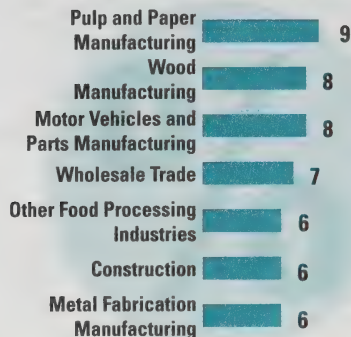
Unemployment Rate



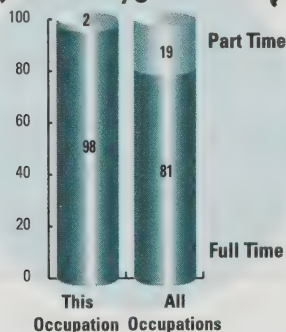
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Construction Millwrights and Industrial Mechanics (Except Textile)

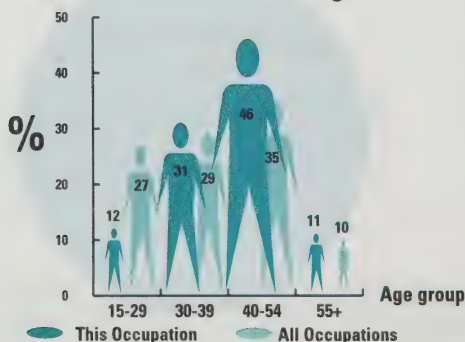
Where They Work



Type of Employment



Distribution by Age



At Work

Construction millwrights are employed by millwrighting contractors and mostly do the initial installation of industrial plant equipment. Industrial mechanics work in manufacturing plants, utilities and other industrial organizations to maintain and repair equipment after installation. Their duties may require them to:

- read diagrams and schematic drawings to determine work procedures;
- install stationary industrial machinery and mechanical equipment according to plans;
- operate hoisting and lifting devices to position machinery and parts during installation, set-up and repair of machinery;
- inspect, clean, repair and maintain machinery;
- operate machine tools such as lathes and grinders to fabricate parts for overhaul, maintenance or set-up of machinery; and
- construct foundations for machinery or direct other workers to construct foundations.

Education, Training & Experience

- People in this group usually require secondary school education. Most recent entrants have a trade/vocational certificate or a community college diploma.
- To gain trade certification, they must usually either complete a three- to four-year apprenticeship program or have a combination of over five years' work experience in the trade and some high school, college or industry courses in industrial machinery repair or millwrighting.
- Industrial mechanic trade certification is compulsory in Quebec and available, but voluntary, in all other provinces and territories.
- Construction millwright trade certification is available, but not compulsory, in New Brunswick, Ontario and Prince Edward Island.
- Qualified industrial mechanics and millwrights may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- With experience, people in this group may progress to supervisory positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

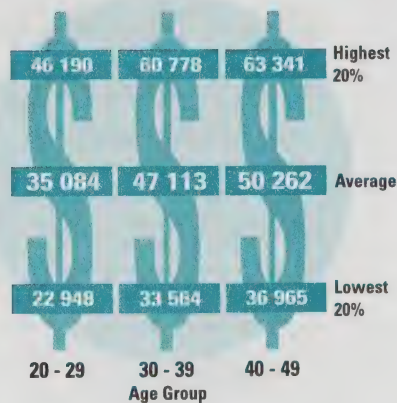
In These Occupations...

- 74,000 people were employed in 1998, an increase of 2.1% from 1988. After declining 12.0% over the 1988 to 1993 period, employment increased 16.0% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 2% work part-time, well below the average of 19% for all occupations.
- 2% are self-employed, well below the average of 17% for all occupations.
- 1% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 5.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the trades, transport and equipment operation sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since earnings are well above average and employment opportunities are at the average level.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- New technologies may adversely affect demand for millwrights, as many of these technologies use electronics technicians rather than millwrights. Millwrights are becoming more productive with advances in measuring devices; however, they must have the skills required to use these devices.
- The increasing complexity of mechanical systems also increases the skill requirements of this occupation.
- The increase in employment requirements through 2004 for this occupation is expected to occur across a broad range of industries, with much of the increase in the non-electrical machinery and construction industries.

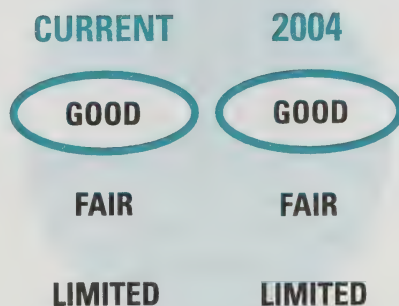
Earnings



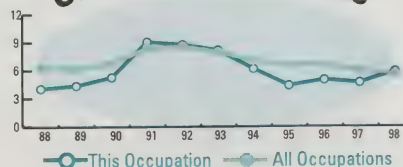
Overall Average for All Ages (15+)

47 708	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



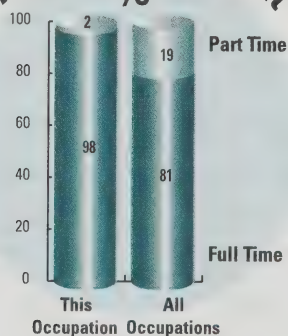
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Heavy-Duty Equipment Mechanics

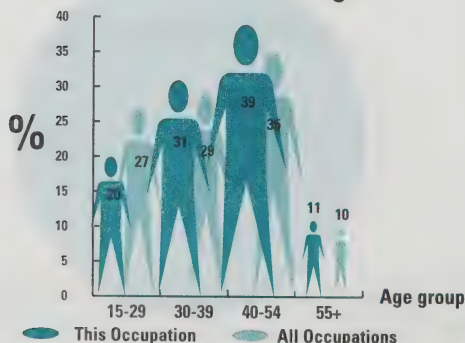
Where They Work



Type of Employment



Distribution by Age



At Work

Heavy-duty equipment mechanics work for companies that use, rent or service bulldozers, cranes, graders and other heavy equipment for construction, forestry, farming, mining, oil and gas, material handling, landscaping, land clearing and other activities. Their duties may require them to:

- clean, lubricate and maintain equipment; and
- test, diagnose malfunctions and adjust or repair equipment to meet manufacturers' specifications.

Education, Training & Experience

- Heavy-duty equipment mechanics usually require secondary school education. Most recent entrants have a trade/vocational certificate or a community college diploma.
- To gain trade certification, they usually either complete a three- to five-year apprenticeship program or have a combination of over four years' work experience in the trade and some high school, college or industry courses in heavy equipment repair.
- Heavy-duty equipment mechanic trade certification is compulsory in Quebec and Alberta and available, but voluntary, in all other provinces and territories.
- Farm equipment mechanic trade certification is available, but voluntary, in all provinces except Quebec and the territories.
- Heavy equipment and farm equipment mechanics may obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- Mine equipment mechanics in Nova Scotia may have to complete a mine equipment repair apprenticeship program and trade certification.
- With experience, heavy-duty equipment mechanics may progress to supervisory positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

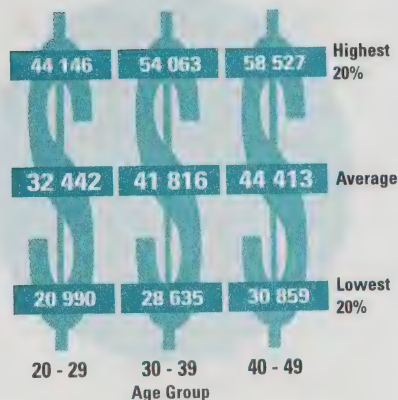
In These Occupations...

- 46,000 people were employed in 1998, an increase of 3.6% from 1988. This reflects an increase of 1.5% from 1988 to 1993 and 2.0% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 3% work part-time, well below the average of 19% for all occupations.
- 7% are self-employed, compared to an average of 17% for all occupations.
- 2% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4.7% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The Canadian Association of Equipment Distributors (CAED) has a different view of labour market conditions in this occupation. According to the CAED, conditions for heavy-duty equipment mechanics are currently good and will improve further through 2004, due to substantial employment growth, a high retirement rate among experienced mechanics and the small number of graduates entering the occupation.
- These mechanics increasingly work with computerized machinery and need to have the skills this work requires. Many mechanics also need good communications skills, as they work directly with clients.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the wholesale trade and construction industries.

Earnings



Overall Average for All Ages (15+)

40 915	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

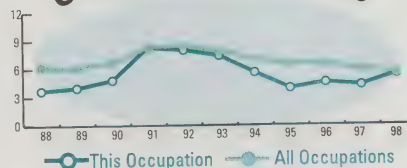
FAIR

FAIR

LIMITED

LIMITED

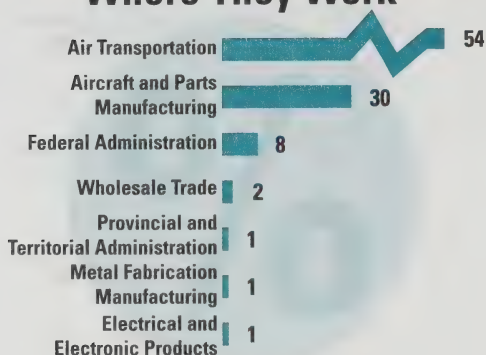
Unemployment Rate



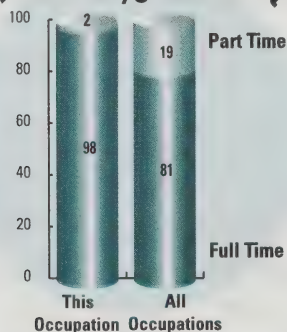
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Aircraft Mechanics and Aircraft Inspectors

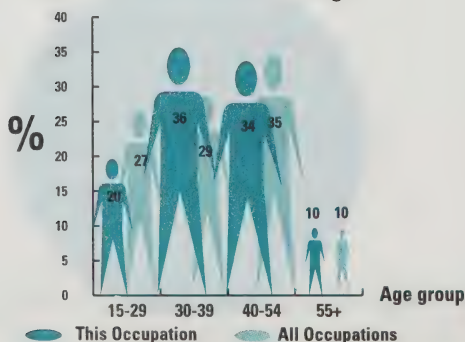
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group are employed by aircraft manufacturers, maintenance and overhaul organizations, and airlines and other aircraft operators.

- Aircraft mechanics install, maintain, repair and overhaul aircraft structures and mechanical and hydraulic systems. They may specialize in specific aircraft systems such as engines, airframes or hydraulic systems, particularly in large organizations.
- Aircraft inspectors inspect aircraft and aircraft systems following manufacture, modification, maintenance, repair or overhaul.

Education, Training & Experience

- People in this group usually require a secondary school education. Most recent entrants have a trade/vocational certificate or a community college diploma.
- Completing a college program makes it easier to enter the industry.
- Voluntary trade certification is available from the Canadian Aviation Maintenance Council.
- A four-year apprenticeship program is available in the Northwest Territories.
- Aircraft mechanics must have several years' on-the-job training. Those who sign maintenance releases also require an Aircraft Maintenance Engineer (AME) licence issued by Transport Canada.
- With experience, aircraft mechanics may progress to supervisory positions or, if they have an AME licence, they may become aircraft inspectors.
- Aircraft inspectors need several years' experience as aircraft mechanics and an Aircraft Maintenance Engineer (AME) licence with endorsements for specific aircraft types and aircraft systems issued by Transport Canada. They may acquire further endorsements to this licence to inspect and certify a broader range of aircraft and aircraft systems.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

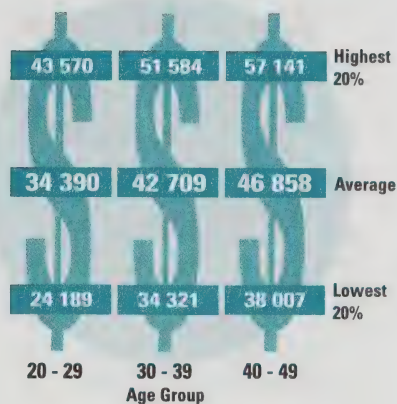
In These Occupations...

- 17,000 people were employed in 1998, an increase of 31.6% from 1988. This reflects an increase of 14.5% from 1988 to 1993 and 14.9% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 2% work part-time, well below the average of 19% for all occupations.
- 3% are self-employed, well below the average of 17% for all occupations.
- 3% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 2.7% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities are well above average, although earnings are at the average level.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The skill level required of these mechanics will increase, as aircraft mechanical and control systems become more and more complex and increasingly computerized.

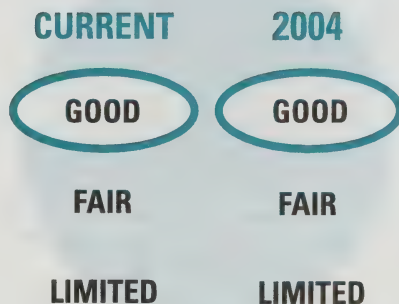
Earnings



Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



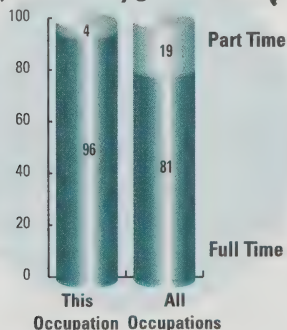
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Motor Vehicle Mechanics

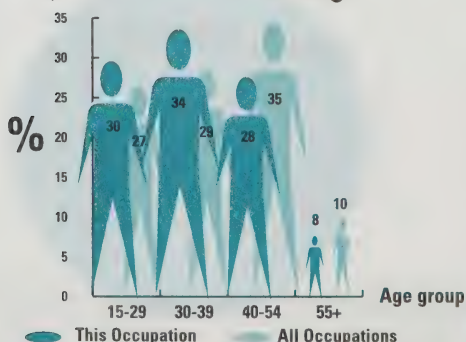
Where They Work



Type of Employment



Distribution by Age



At Work

Automotive service technicians, truck and transport mechanics, mechanical repairers and motor vehicle body repairers work for motor vehicle dealers, garages and service stations, automotive specialty and retail organizations, motor vehicle manufacturers, automobile body repair companies and appraisal centres, public transit authorities and trucking firms.

- Motor vehicle mechanics and technicians inspect, diagnose, repair and service mechanical, electrical and electronic systems and components of cars, buses and trucks. They may specialize in areas such as brakes, air conditioning, cooling and heating systems, transmission systems or diagnostic services.
- Mechanical repairers inspect, repair, test and adjust mechanical units of newly assembled motor vehicles. Metal repairers repair vehicle body damage in assembly plants.
- Motor vehicle body repairers and refinishers repair and restore damaged motor vehicle parts and the exterior finish of vehicles.

Education, Training & Experience

- People in this occupational group usually have a high school diploma, although most provinces require only Grade 10 for entry. Most recent entrants have a trade/vocational certificate or a community college diploma.
- To gain trade certification, automotive service technicians and other motor vehicle mechanics and technicians must complete a four-year apprenticeship program.
- To gain trade certification, motor vehicle body repairers and refinishers usually complete a three- to four-year apprenticeship or have a combination of three years' experience and a high school or college automotive body repair program.
- Trade certification is compulsory in some provinces, but voluntary in others.
- Qualified automotive service technicians, motor vehicle mechanics, technicians, truck and transport mechanics, truck trailer repairers, automotive painters, body repairers and refinishers may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.

**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

- Mechanical repairers in the motor vehicle manufacturing industry require two to three years' on-the-job training while motor vehicle metal repairers require one to two years' on-the-job training in body repair.

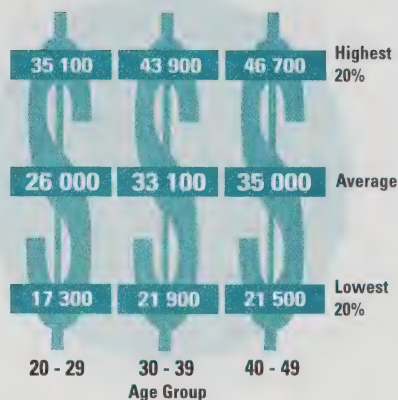
In These Occupations...

- 156,000 people were employed in 1998, an increase of 9.2% from 1988. Most of the growth occurred from 1993 to 1998, when employment increased 7.2%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 79% are automotive service technicians and other motor vehicle mechanics, technicians and mechanical repairers and 21% are motor vehicle body repairers.
- 4% work part-time, well below the average of 19% for all occupations.
- 13% are self-employed, compared to an average of 17% for all occupations.
- 2% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 6.0% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The increasing complexity of motor vehicle mechanical systems is leading to increased educational and skill requirements in these occupations. A shift to team-based operations also requires new skills.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the retail trade industry.

Earnings



Overall Average for All Ages (15+)

37 700	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Motor Vehicle Mechanics, Technicians and Mechanical Repairers

Where They Work



At Work

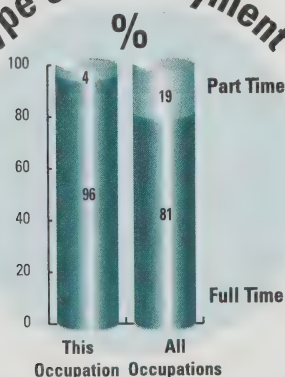
Automotive service technicians and truck and transport mechanics are employed by motor vehicle dealers, garages and service stations, automotive specialty shops, public transit authorities and trucking firms. Mechanical repairers are employed by motor vehicle manufacturing companies.

- Motor vehicle mechanics and technicians inspect, diagnose, repair and service mechanical, electrical and electronic systems and components of cars, buses and trucks and may specialize in specific motor vehicle systems.
- Mechanical repairers perform major repairs and replacement of mechanical units on newly assembled motor vehicles.

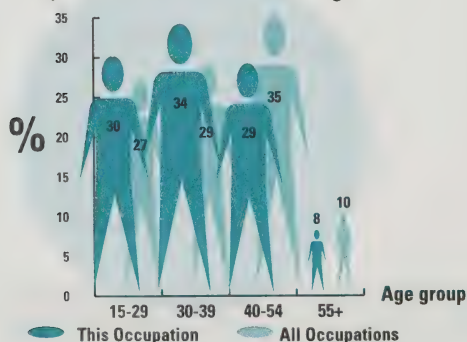
Education, Training & Experience

- People in this occupation usually require secondary school education. Most recent entrants have a trade/vocational or community college diploma.
- To gain trade certification, automotive service technicians and other motor vehicle mechanics and technicians must complete a four-year apprenticeship program.
- Trade certification for various automotive service specialties and truck mechanics is often available and may be required in some jurisdictions.
- Truck and transport mechanic trade certification is compulsory in Nova Scotia and Ontario and available, but voluntary, in Newfoundland, Prince Edward Island, New Brunswick, Quebec, Manitoba, Saskatchewan, British Columbia, and the Yukon.
- Qualified motor vehicle body mechanics, automotive service technicians and body repairers and painters, as well as truck and transport mechanics and truck trailer repairers, may obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- Mechanical repairers usually receive two to three years' on-the-job training.

Type of Employment



Distribution by Age



*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

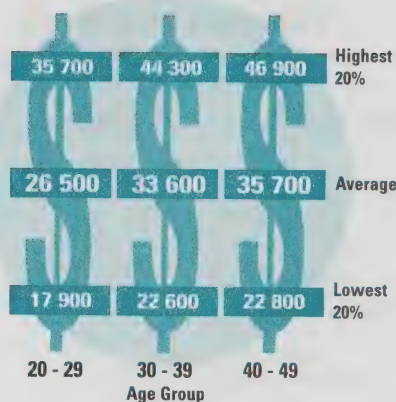
In These Occupations...

- 123,000 people were employed in 1998, an increase of 9.3% from 1988. Most of the growth occurred from 1993 to 1998, when employment increased 8.8%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 4% work part-time, well below the average of 19% for all occupations.
- 11% are self-employed, compared to an average of 17% for all occupations.
- 2% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 5.2% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Increasingly complex motor vehicle systems, such as electronic systems, and use of propane vehicles are examples of the trends which are increasing educational and skill requirements in this occupation. A shift to team-based repair operations also requires new skills.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the retail trade industry.

Earnings



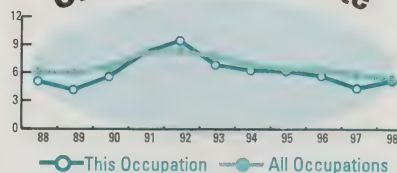
Overall Average for All Ages (15+)

38 300	37 400
This Occupation	All Occupations

Work Prospects

CURRENT	2004
GOOD	GOOD
FAIR	FAIR
LIMITED	LIMITED

Unemployment Rate



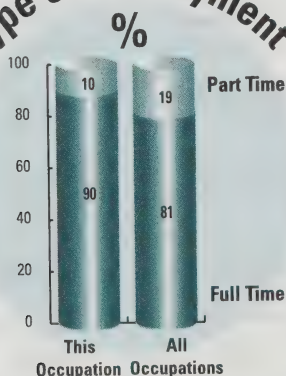
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Other Mechanics

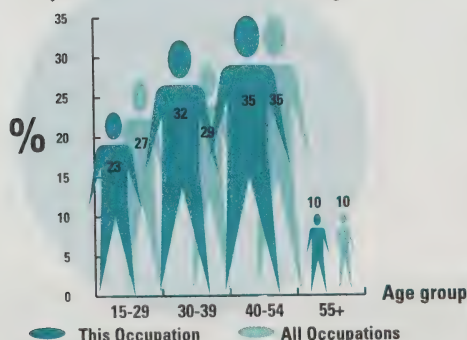
Where They Work



Type of Employment



Distribution by Age



At Work

These mechanics work in heating systems installation and service companies; appliance service companies; electrical and other repair shops; electrical equipment manufacturers service shops; maintenance and repair departments of retail, wholesale and manufacturing companies; motorcycle dealers; and independent service organizations.

- Oil and solid fuel heating mechanics install and maintain oil, coal and wood heating systems in residential and commercial buildings.
- Electric appliance servicers and repairers service and repair domestic appliances.
- Electrical mechanics maintain, test and repair electric motors, transformers, switchgears and other electrical apparatus. They may specialize in particular functions or products.
- Motorcycle and other related mechanics test, repair and service motorcycles, snowmobiles, forklifts and similar vehicles.
- Other small-engine and equipment mechanics test, repair and service small gasoline- and diesel-powered equipment such as outboard motors and lawn mowers.

Education, Training & Experience

- People in this group usually require secondary school education. Most recent entrants have a trade/vocational certificate or a community college diploma.
- To gain trade certification, oil and solid fuel heating, electrical, motorcycle, small-engine and equipment mechanics and repairers usually have a three- to four-year apprenticeship or a combination of experience and college or other courses.
- They may need trade certification in their province of work.
- Most mechanics may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- Small appliance repairers and other small-engine and equipment mechanics usually require on-the-job training and college or other courses.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

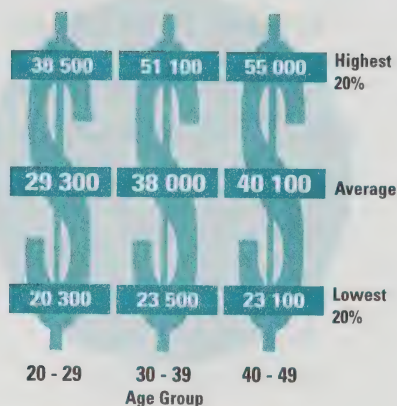
In These Occupations...

- 21,000 people were employed in 1998, a decrease of 2.1% from 1988. After rising 5.9% over the 1988 to 1993 period, employment decreased 7.5% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 31% are electrical appliance servicers and repairers; 25% are electrical mechanics; and 24% are small-engine and equipment mechanics.
- 10% work part-time, compared to an average of 19% for all occupations.
- 27% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 3% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 7.5% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the retail trade and construction industries.

Earnings



Overall Average for All Ages (15+)

37 100

37 400

This Occupation

All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

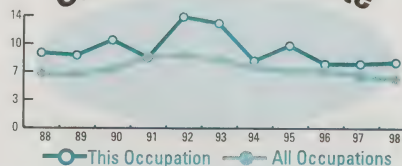
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



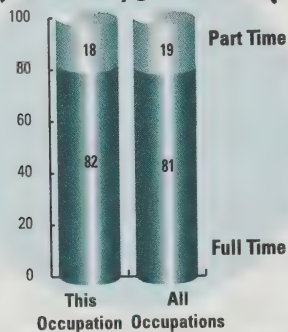
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Upholsterers, Tailors, Shoe Repairers, Jewellers and Related Occupations

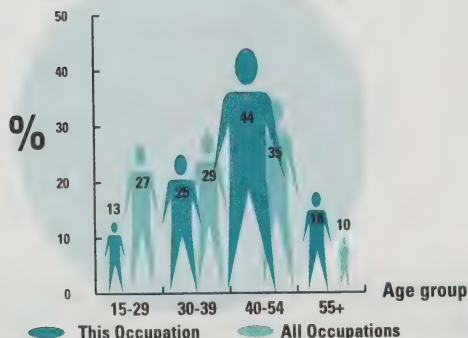
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in furniture, aircraft, motor vehicle, garment, jewellery, clock and watch manufacturing companies; furniture repair shops; retail stores; clothing alteration shops; shoe, jewellery and watch repair shops; and custom shoemaking establishments. They may also be self-employed.

- Upholsterers cover furniture, fixtures and other items with materials, and install upholstery in aircraft, motor vehicles, railway cars and marine vessels.
- Tailors and dressmakers make made-to-measure garments and alter and repair garments.
- Furriers make, restyle and repair natural fur garments and accessories.
- Milliners design and make hats and related accessories.
- Seamstresses make alterations and repairs to garments and other items.
- Shoemakers make specialized custom shoes and boots.
- Shoe repairers restore footwear, purses, luggage and other items.
- Jewellers fabricate, assemble and appraise fine jewellery and other items.
- Watch repairers mend and make clocks and watches.

Education, Training & Experience

- People in these occupations usually require some high school education or a high school diploma. Many recent entrants have a high school diploma.
- They may need college or other courses in their field, an apprenticeship, several years' experience, on-the-job training or demonstrated sewing and creative skills.
- Furriers require several years' experience in selecting pelts.
- Shoemakers must have extensive on-the-job training.
- Watch repairers require certification in Quebec and Ontario.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

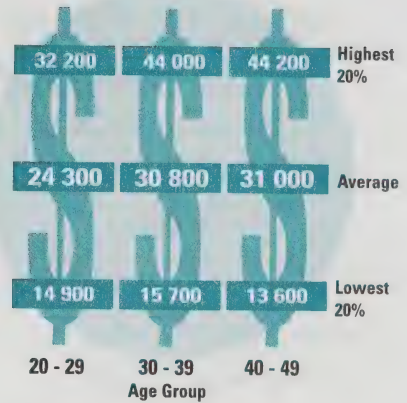
In These Occupations...

- 41,000 people were employed in 1998, a decrease of 10.7% from 1988. However, after declining 19.6% over the 1988 to 1993 period, employment increased 11.1% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 61% are tailors, dressmakers, furriers and milliners and 19% are upholsterers.
- 18% work part-time, compared to an average of 19% for all occupations.
- 41% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 63% are women, well above the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 7.2% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the personal and household services and retail trade industries.

Earnings



Overall Average for All Ages (15+)

23 500

37 400

This Occupation

All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

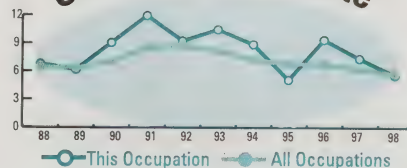
FAIR

FAIR

LIMITED

LIMITED

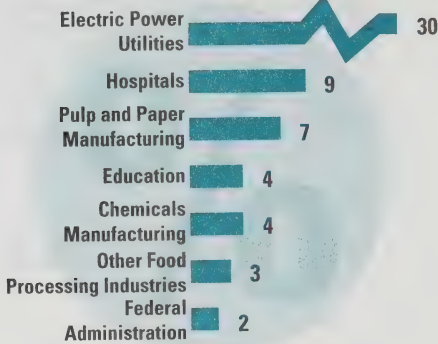
Unemployment Rate



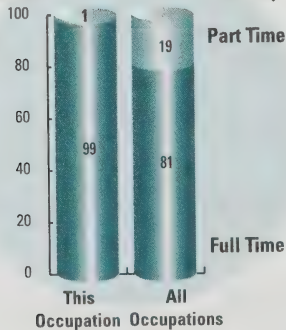
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Stationary Engineers and Power Station and System Operators

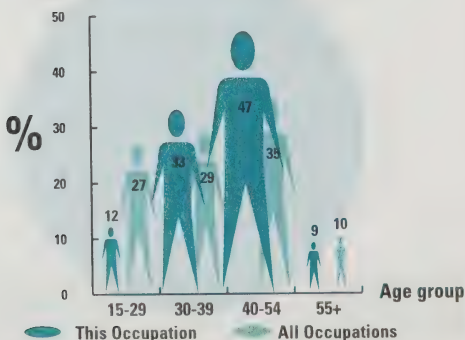
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in industrial and manufacturing plants, hospitals, universities, government and commercial organizations, electric power utilities and large manufacturing facilities.

- Stationary engineers and auxiliary equipment operators maintain and operate stationary engines and auxiliary equipment such as boilers, turbines, generators, compressors, and other equipment to provide heat, ventilation, refrigeration, light and power for buildings and industrial plants.
- Power system operators monitor and operate computerized or pneumatically controlled switchboards and auxiliary equipment in electrical control centres to control and regulate electrical power in transmission networks.
- Power station operators run reactors, turbines, boilers, generators, condensers and auxiliary equipment in hydro, thermal and nuclear power plants to generate electric power.

Education, Training & Experience

- People in this group usually have a high school diploma and specialized training. Most recent entrants have a trade/vocational certificate or a community college diploma.
- Stationary engineers and auxiliary equipment operators must complete an apprenticeship program in stationary or power engineering, or on-the-job training and high school courses, or a college training program in stationary or power engineering. They also require provincial or territorial certification.
- Power system operators must complete a three- to five-year apprenticeship or have more than three years' experience and some college or industry courses in electrical and electronic technology.
- Power station operators must complete an apprenticeship in stationary or power engineering, or have several years' experience and some high school, correspondence or college courses in stationary or power engineering. They also require provincial or territorial certification.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

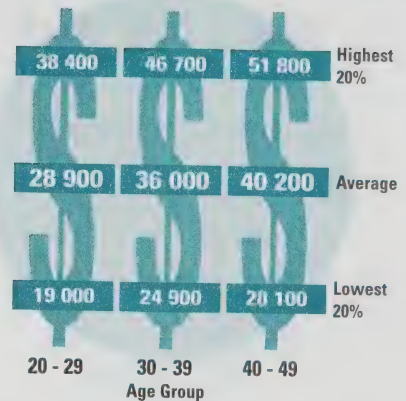
In These Occupations...

- 37,000 people were employed in 1998, an increase of 5.6% from 1988. However, after rising 5.6% over the 1988 to 1993 period, employment decreased 0.1% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 74% are stationary engineers and auxiliary equipment operators and 26% are power system and power station operators.
- 1% work part time, well below the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 4% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 2.5% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Restructuring of the electric power industry could have an impact on employment opportunities for workers in these occupations.
- Employment requirements for these occupations are expected to increase through 2004 across a broad range of industries, with much of the increase in the electrical power industry and hospitals.

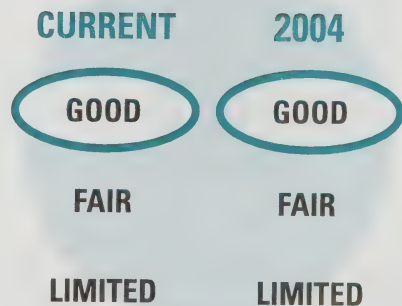
Earnings



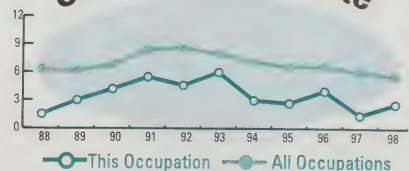
Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



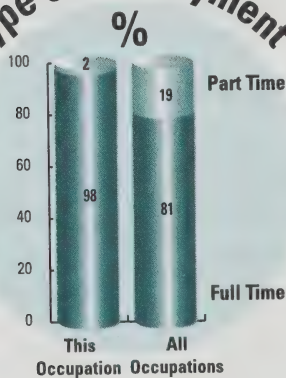
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Train Crew Operating Occupations

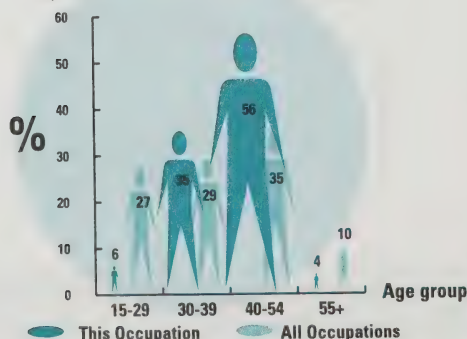
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for railway transport companies and industrial and commercial users of rail transport.

- Railway locomotive engineers transport passengers and freight on railways. They operate communication systems to communicate with train crews and railway traffic controllers to ensure that trains operate safely and meet their schedules.
- Yard locomotive engineers switch, couple and uncouple cars for loading and unloading goods within the yards of railway, industrial and other organizations.
- Railway conductors coordinate and supervise the activities of passenger and freight crew members, except for railway locomotive engineers, to ensure that trains operate according to schedules, orders and operating rules. They also collect fares, announce train stops and answer passengers' questions.
- Railway brakemen/women check train brakes and other systems and equipment prior to train runs and assist railway conductors in activities en route.

This occupational group also includes railway hostlers; switch engineers; freight, passenger and railway conductors; and road freight, front-end and tail-end brakemen/women.

Education, Training & Experience

- People in this group usually need a high school diploma. Many recent entrants have a high school diploma.
- Except for yard locomotive engineers, they require specific levels of the Certificate of the Canadian Rail Operating Rules.
- Railway locomotive engineers must have experience as railway conductors.
- Yard locomotive engineers may need experience as railway conductors or railway yard workers.
- Railway conductors must have experience as railway brakemen/women.
- Railway brakemen/women usually require experience as railway workers.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

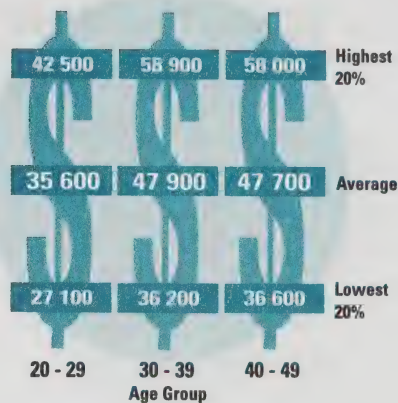
In These Occupations...

- 13,000 people were employed in 1998, a decrease of 18.8% from 1988. This reflects a decrease of 12.3% from 1988 to 1993 and 7.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 53% are railway and yard locomotive engineers and 47% are railway conductors and brakemen/women.
- 2% work part-time, well below the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 4% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 1.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as employment losses are expected to continue.
- The restructuring of Canadian National and Canadian Pacific is expected to continue, with a negative impact on demand for these workers. Consequently, chances of new entrants obtaining jobs in these occupations are limited. Short-line railway operations are likely to take over some of the track abandoned by the larger lines, but typically operate with smaller crews.

Earnings



Overall Average for All Ages (15+)

53 800	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

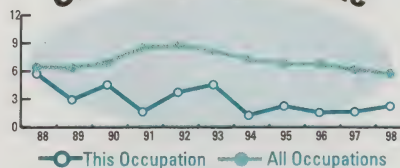
FAIR

FAIR

LIMITED

LIMITED

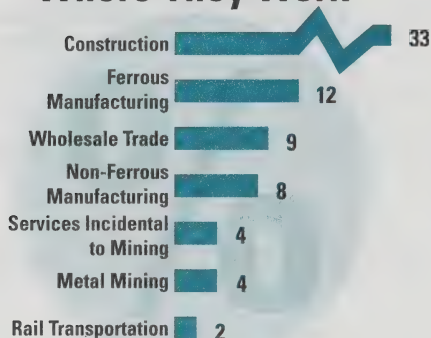
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Crane Operators, Drillers and Blasters

Where They Work

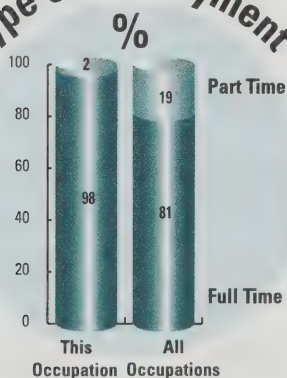


At Work

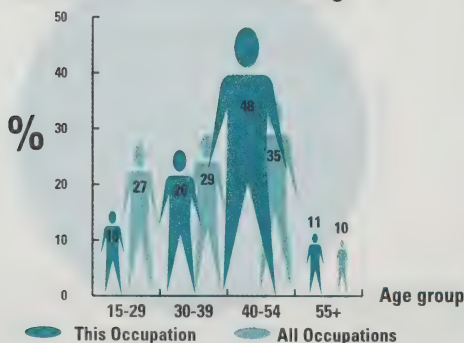
People in this group work for government and for construction, mining, quarrying, industrial, cargo handling and railway companies and contractors.

- Crane operators use cranes and draglines to lift and place machinery and other large objects at work sites.
- Drillers operate mobile drilling machines to bore blast holes in open-pit mines and quarries and during the construction of building foundations.
- Blasters place explosives in blast holes and detonate explosives to dislodge coal, ore and rock and to demolish structures.
- Water well drillers operate mobile well drilling rigs and equipment to drill residential, commercial and industrial water wells.

Type of Employment



Distribution by Age



Education, Training & Experience

- People in this group usually have some high school education. Many recent entrants have a trade/vocational certificate or a community college diploma.
- Crane operators require an apprenticeship of one to three years or crane operation courses.
- In some provinces, crane, boom truck and mobile and tower crane operators require trade certification.
- Mobile crane operators may require a licence to drive on public roads. If they have trade certification, they may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- Drillers may require heavy equipment operator experience and on-the-job training.
- Blasters usually require a blasting licence and may need experience as blaster helpers in surface mining and quarrying. They usually get on-the-job training.
- To gain trade certification, water well drillers require a two- to three-year apprenticeship or two to three years' experience with trade courses.

Check out the 'big picture' in
"World of Work: Overviews and Trends"

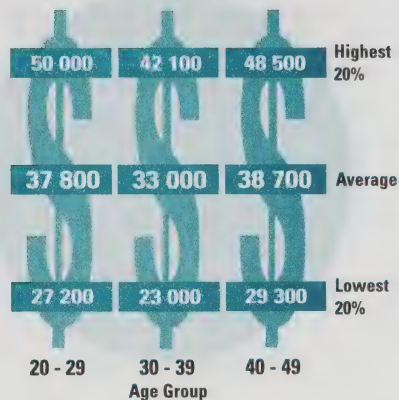
In These Occupations...

- 17,000 people were employed in 1998, a decrease of 12.5% from 1988. However, after declining 15.8% over the 1988 to 1993 period, employment increased 4.0% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 75% are crane operators and 16% are drillers and blasters, in surface mining, quarrying and construction.
- 2% work part-time, well below the average of 19% for all occupations.
- 4% are self-employed, well below the average of 17% for all occupations.
- 2% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 8.9% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Robotics and computer controls will increase the skill requirements for crane operators, but may also decrease demand for these workers.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the construction industry.

Earnings



Overall Average for All Ages (15+)

36 900	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

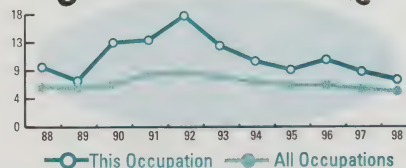
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



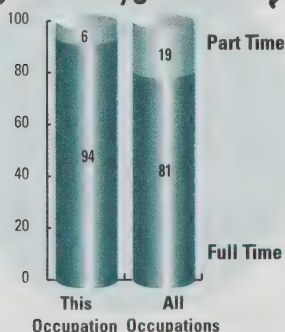
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Printing Press Operators, Commercial Divers and Other Trades and Related Occupations

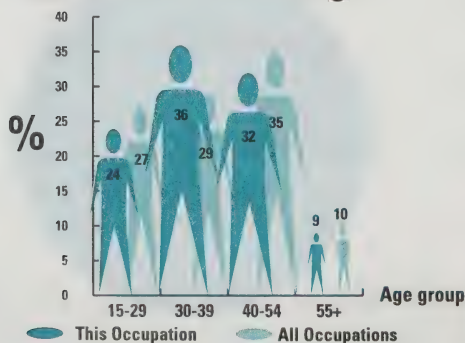
Where They Work



Type of Employment



Distribution by Age



At Work

Printing press operators work for commercial printing companies, newspapers, magazines and other public or private establishments that have in-house printing departments.

- Printing press operators set up and operate sheet and web-fed presses to print illustrations, designs and text on plastic, paper, metals and other materials.
- Commercial divers conduct underwater surveys, non-destructive testing, blasting and welding activities.
- Gunsmiths fabricate guns and repair and modify firearms.
- Locksmiths make keys and repair, install, adjust and change locks.
- Safe and vault servicers install, repair and maintain safes and vaults.
- Saw fitters repair, set and sharpen bandsaws and other types of saws.

Education, Training & Experience

- People in this group usually require secondary school education. Many recent entrants have a high school diploma.
- Printing press operators and other trades need an apprenticeship or a combination of several years' experience and college or other trade courses, or several years' on-the-job training. They may require provincial trade certification or a licence.
- Commercial divers must complete a recognized commercial diving school program and obtain a commercial diver's licence.
- They may require military or police diving experience.
- Commercial divers who use explosives usually have a provincial blaster's licence.
- Recreation vehicle mechanics may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

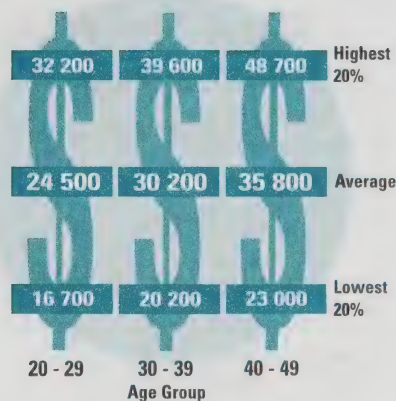
In These Occupations...

- 39,000 people were employed in 1998, a decrease of 5.9% from 1988. However, after declining 14.6% over the 1988 to 1993 period, employment increased 10.1% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 76% are printing press operators.
- 6% work part-time, well below the average of 19% for all occupations.
- 11% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 9% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 5.0% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Conditions are likely to vary widely among the many occupations in this group.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the printing and publishing industry.

Earnings



Overall Average for All Ages (15+)

36 000	37 400
This Occupation	All Occupations

Work Prospects

CURRENT 2004

GOOD

GOOD

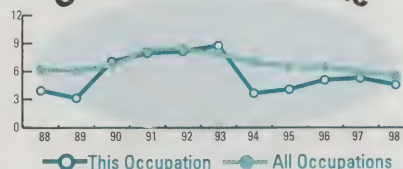
FAIR

FAIR

LIMITED

LIMITED

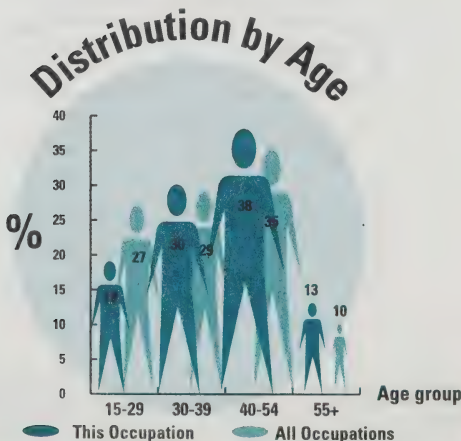
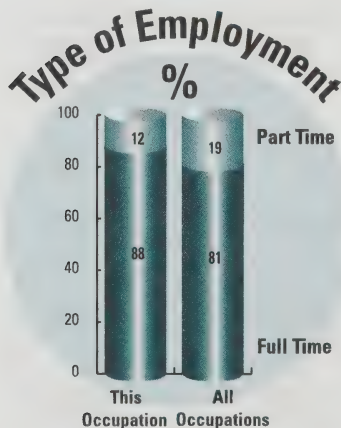
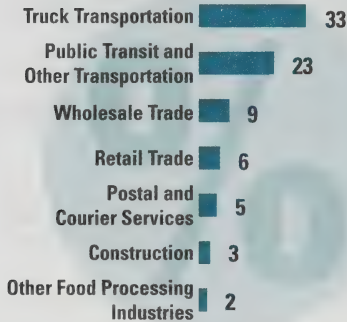
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Motor Vehicle and Transit Drivers

Where They Work



At Work

These drivers work in government and private transportation and transportation service companies, manufacturing and distribution companies, moving and taxi companies, private households and other organizations.

- Truck drivers transport goods within and between cities and towns, provinces and territories and over international routes. They may transport hazardous products or dangerous goods.
- Bus drivers, streetcar drivers and subway and light rail transit operators take passengers along established routes to local destinations.
- Bus drivers also transport passengers and goods to intercity or long-distance points and drive sightseeing tour buses.
- School bus drivers transport students between school and home and on excursions.
- Taxi drivers and limousine drivers take passengers to and from destinations and collect fares.
- Chauffeurs transport family members or business representatives to and from destinations.
- Delivery drivers use automobiles, vans and light trucks to pick up and deliver products.

Education, Training & Experience

- These drivers usually complete some high school or have a high school diploma. Many recent entrants have a high school diploma.
- Taxi and limousine drivers and chauffeurs usually have a minimum of one year of safe-driving experience and an appropriate driver's licence for their vehicle. Taxi drivers usually require municipal permits.
- Delivery drivers usually need one year of safe-driving experience and an appropriate driver's licence for their vehicle.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

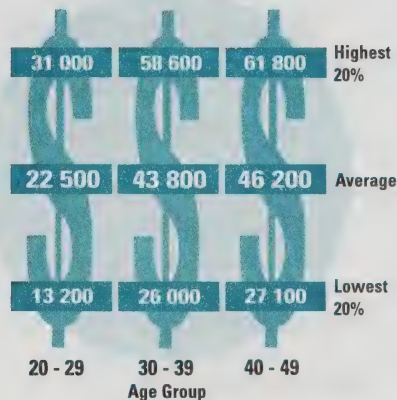
In These Occupations...

- 401,000 people were employed in 1998, an increase of 9.8% from 1988. After declining 2.9% over the 1988 to 1993 period, employment increased 13.1% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 51% are truck drivers; 23% are delivery drivers; and 17% are bus drivers and subway and other transit operators.
- 13% work part-time, well below the average of 19% for all occupations.
- 19% are self-employed, compared to an average of 17% for all occupations.
- 9% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 7.1% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the public transit and truck transportation industries.

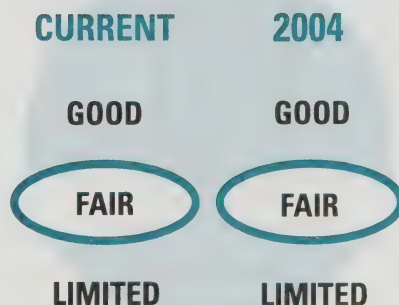
Earnings



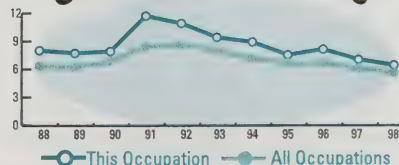
Overall Average for All Ages (15+)

\$34,300	\$37,400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



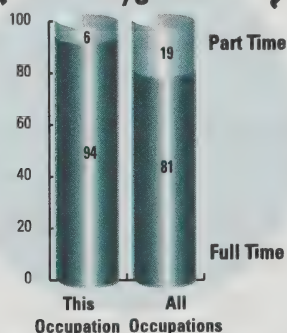
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Truck Drivers

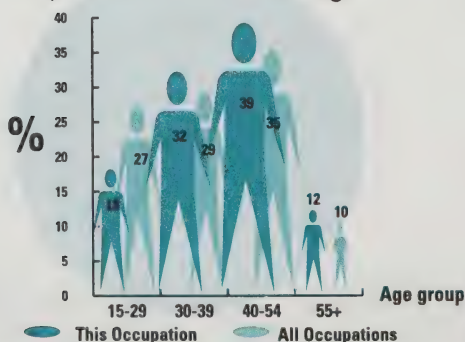
Where They Work



Type of Employment



Distribution by Age



At Work

Truck drivers work for transportation companies, manufacturing and distribution companies and moving companies. They may also be self-employed. Their duties may require them to:

- operate and drive straight or articulated trucks weighing over 4,600 kg with three or more axles to transport goods and materials;
- oversee all aspects of trucking such as condition of equipment, loading and unloading, and safety and security of cargo;
- obtain special permits and other documents required to transport cargo on international routes;
- record cargo information, distance travelled, fuel consumption and other information in a log book or an on-board computer;
- receive and relay information to a central dispatcher;
- drive as part of a team or convoy; and
- transport hazardous products or dangerous goods.

Education, Training & Experience

- Truck drivers must usually complete some high school. Many recent entrants have a high school diploma.
- They must have a driver's licence appropriate to the class of vehicle they are driving.
- Drivers who operate vehicles equipped with air brakes must have air brake endorsements.
- Drivers who deal with hazardous products or dangerous goods must be certified by their employers.
- With experience or additional training, they may progress to supervisory positions or to non-driving occupations such as truck driving instructor, safety officer and truck dispatcher.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

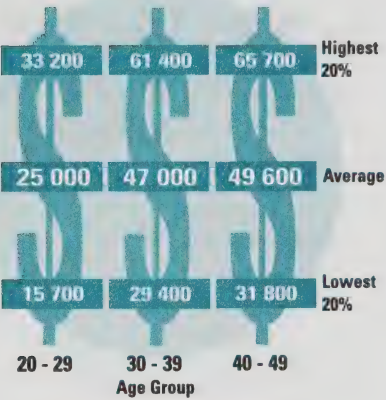
In These Occupations...

- 206,000 people were employed in 1998, an increase of 17.7% from 1988. After declining 2.0% over the 1988 to 1993 period, employment increased 20.0% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 6% work part-time, well below the average of 19% for all occupations.
- 20% are self-employed, compared to an average of 17% for all occupations.
- 2% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 9.2% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for occupations with similar education/training requirements but are comparable to those for other occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are average, although earnings are above the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Public pressure for improved highway safety, the growing use of satellite positioning systems and the use of more complex rigs are all likely to increase skill requirements for truck drivers. The safety-related trend toward a higher level of log book enforcement means that truck drivers need to be able to fill in complex documentation accurately. Limits to the time drivers are allowed to work may increase demand in this occupation.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the truck transportation industry.

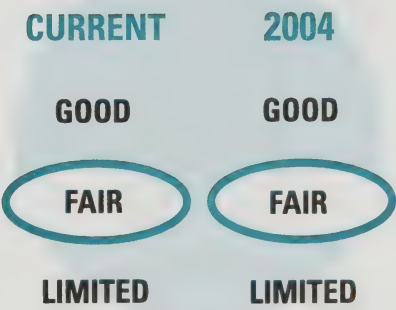
Earnings



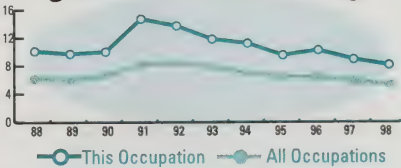
Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Bus Drivers and Subway and Other Transit Operators

Where They Work



At Work

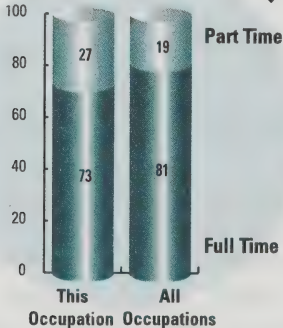
People in this occupation work for municipal governments. Bus drivers may also be employed by private transportation companies.

- Bus and streetcar drivers transport passengers to local, intercity or long-distance destinations. They may drive sightseeing tour buses and provide information on points of interest.
- School bus drivers transport children between school and home, and on excursions. They ensure safety when children board and leave buses and cross streets when the bus is stopped.
- Subway train and light rail transit operators, often working in two-person crews, may operate controls and close transit vehicle doors. They may also report delays, malfunctions and accidents to the control unit and direct passengers during emergency evacuation procedures.

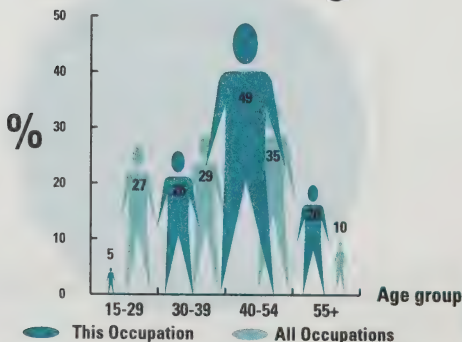
Education, Training & Experience

- People in this occupation may have to complete high school and must have a minimum of one year of safe-driving experience. Many recent entrants have a high school diploma.
- They usually receive three months of on-the-job training including classroom instruction.
- Bus drivers require a Class B, C, E or F driver's licence in Ontario and a Class 2 driver's licence elsewhere.
- Subway and light rail transit operators usually must have experience as a public transit bus driver.
- With experience, people in this group may progress to supervisory or inspector positions.

Type of Employment



Distribution by Age



*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

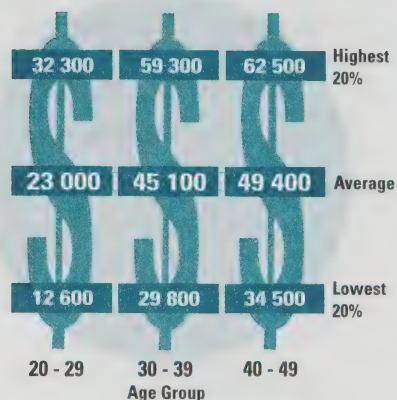
In These Occupations...

- 69,000 people were employed in 1998, an increase of 17.2% from 1988. This reflects an increase of 7.7% from 1988 to 1993 and 8.9% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 27% work part-time, compared to an average of 19% for all occupations.
- 4% are self-employed, well below the average of 17% for all occupations.
- 32% are women, well below the average of 45% for all occupations. The proportion of women in this occupation has increased significantly over the last ten years.
- the unemployment rate averaged 7.5% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for occupations with similar education/training requirements but are comparable to other occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are average, although earnings are above the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Demand for local transit services may intensify as road congestion and pollution increase the pressure to reduce the number of personal automobiles on the road. However, government spending restrictions may slow public transit growth. Government spending restrictions may also decrease the demand for school bus drivers.
- Competition from private automobiles and low airfares continues to decrease demand for intercity bus transport.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the public transit industry.

Earnings



Overall Average for All Ages (15+)

\$37,200

This Occupation

\$37,400

All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

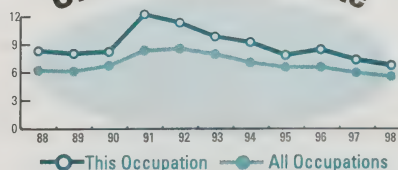
FAIR

FAIR

LIMITED

LIMITED

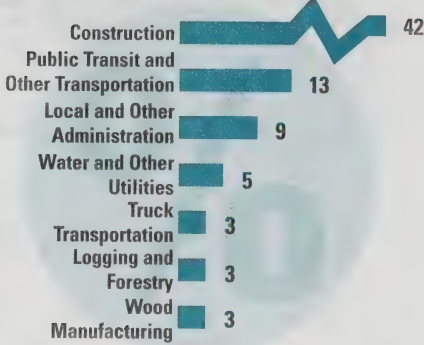
Unemployment Rate



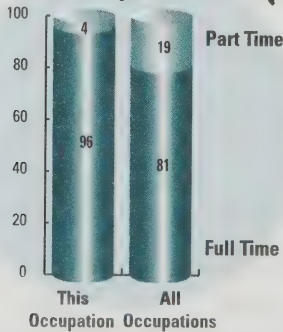
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Heavy Equipment Operators

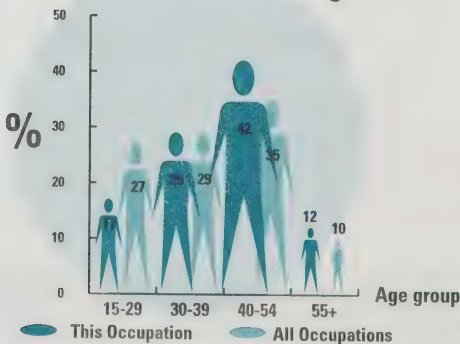
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for construction companies; heavy equipment contractors; pipeline, logging, cargo-handling and other companies; governments; and private contractors.

- Heavy equipment operators operate backhoes, bulldozers, loaders, graders, side-booms, dredging and heavy paving equipment, power shovels, pile drivers and other heavy equipment.
- Heavy equipment operators excavate, load, grade and clear land in the construction and maintenance of roads, bridges, airports, oil and gas pipelines, tunnels, buildings and other structures; in surface mining and quarrying activities; and in material handling work.
- Public works maintenance equipment operators operate garbage trucks, street cleaning equipment, snowploughs, sewer maintenance equipment, sanding and oiling trucks and other maintenance equipment.

This occupational group also includes backhoe, bulldozer and grader operators; garbage truck drivers; sand spreader operators; street flusher operators; and salt truck operators.

Education, Training & Experience

- People in this group usually require secondary school education. Many recent entrants have a high school diploma.
- Heavy equipment operators must complete a one- to two-year apprenticeship or have some high school, college or industry courses in heavy equipment operating combined with on-the-job training.
- Heavy equipment operators require trade certification in Quebec. It is available, but voluntary, in Newfoundland and the Northwest Territories. These operators may require company certification at their place of employment.
- Public works maintenance operators usually need experience as public works labourers. They usually get on-the-job training and may require a driver's licence appropriate to the equipment they are driving.
- With experience, they may progress to supervisory positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

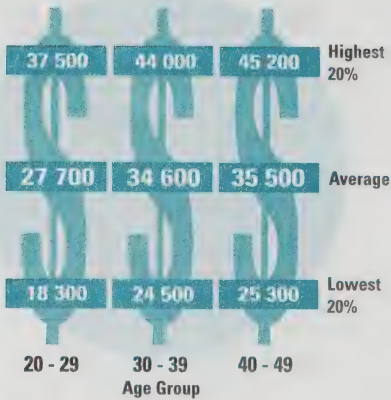
In These Occupations...

- 80,000 people were employed in 1998, an increase of 6.2% from 1988. After declining 5.6% over the 1988 to 1993 period, employment increased 12.6% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 79% are heavy equipment operators and 21% are public works maintenance equipment operators.
- 4% work part-time, well below the average of 19% for all occupations.
- 8% are self-employed, compared to an average of 17% for all occupations.
- 2% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 13.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations with similar education/training requirements and for occupations in the trades, transport and equipment operation sectors.
- the average earnings are among the highest for occupations with similar education/training requirements but are comparable to those for other occupations in the trades, transport and equipment operation sectors.
- employment changes tend to mirror movements in overall economic activity.

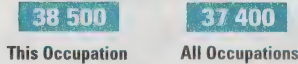
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average and earnings are above the average level for comparable occupations.
- Over the next five years, the outlook is expected to improve to "Good". The number of job openings for heavy equipment operators is expected to increase more rapidly than the number of qualified job seekers, due to strong employment growth and a significant retirement rate.
- As governments' fiscal situation improves, they may invest in new infrastructure and in deferred maintenance of existing infrastructure, thereby increasing demand for these occupations.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the construction industry.

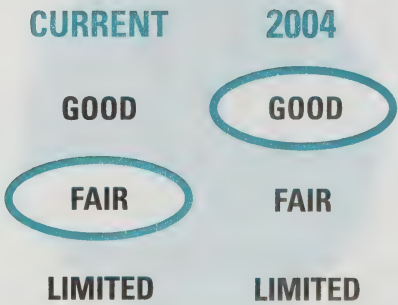
Earnings



Overall Average for All Ages (15+)



Work Prospects



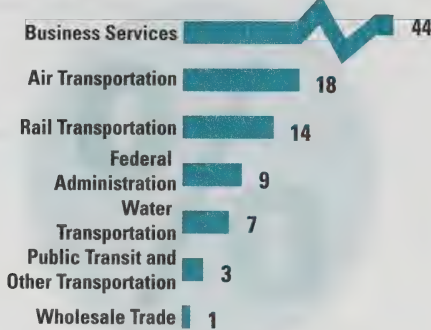
Unemployment Rate



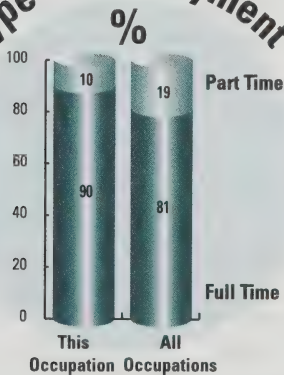
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Other Transport Equipment Operators and Related Workers

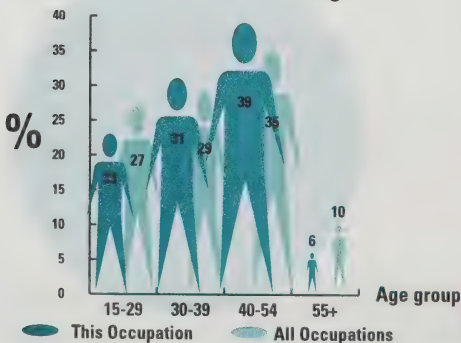
Where They Work



Type of Employment



Distribution by Age



At Work

These people work in railway and marine transport companies; the federal government, including the Canadian Forces; cable ferry companies; marine sightseeing companies; water taxi services; canal, port and harbour authorities; logging, airline and air services companies; and ferry terminals.

- Railway yard workers regulate traffic, and couple, uncouple and switch train cars.
- Railway track maintenance workers lay, maintain and repair tracks.
- Water transport deck crew stand watch and operate and maintain deck equipment.
- Engine room crew assist in the operation, maintenance and repair of engines and equipment on ships and vessels.
- Lock operators open and close locks along canal systems.
- Cable ferry operators run cable ferries.
- Boat operators run small boats to transport passengers and freight.
- Air transport ramp attendants operate ramp-servicing vehicles, handle cargo and baggage, marshal and tow aircraft, and clean aircraft interiors and exteriors.

Education, Training & Experience

- People in this group usually require some high school or a high school diploma. Many recent entrants have a high school diploma.
- They usually receive on-the-job training.
- Some require experience in their area of work.
- Railway yard workers need a specific level of the Certificate of the Canadian Rail Operating Rules.
- Boat operators require a Transport Canada certificate.
- Air transport ramp attendants usually have a driver's licence and a good driving record.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

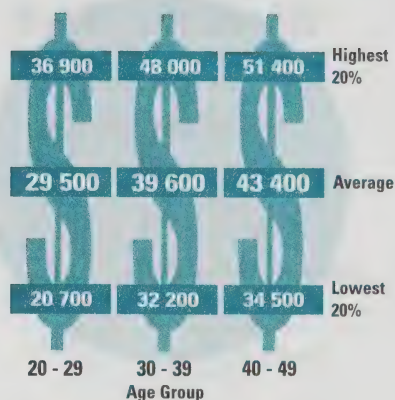
In These Occupations...

- 21,000 people were employed in 1998, a decrease of 18.1% from 1988. Most of the decline occurred from 1988 to 1993, when employment decreased 16.1%. Employment declined 2.5% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- These persons work in a wide variety of transport equipment operating occupations.
- 10% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the past ten years.
- 2% are self-employed, well below the average of 17% for all occupations.
- 8% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 7.3% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for occupations with similar education/training requirements but are comparable to other occupations in the trades, transport and equipment operation sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as employment losses are expected to continue.
- Skill requirements in many of these occupations are affected by increasingly automated operating and dispatching systems.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT 2004

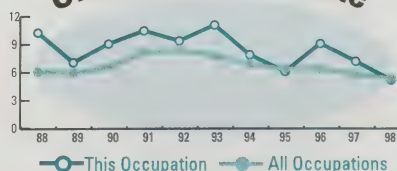
GOOD GOOD

FAIR FAIR

LIMITED

LIMITED

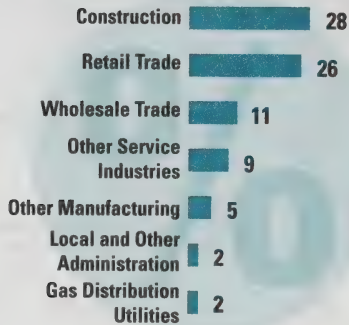
Unemployment Rate



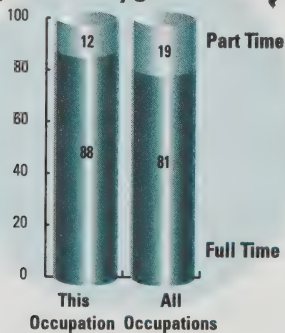
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Other Installers, Repairers and Servicers

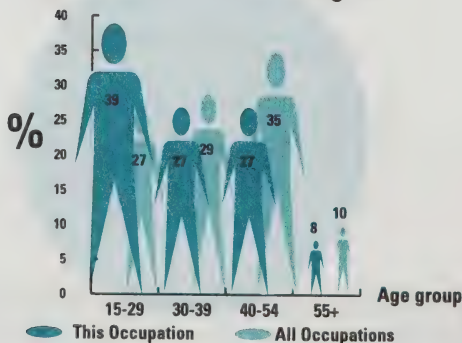
Where They Work



Type of Employment %



Distribution by Age



At Work

People in this group work in gas distribution companies; water filtration and distribution and waste treatment plants; automobile and truck service and repair shops; service departments of industrial organizations and construction, mining and logging companies; pest control companies; product specialty repair shops; and installation and service organizations. They may also be self-employed.

- Residential and commercial installers and servicers install and service products such as water heaters, septic systems and prefabricated windows, doors and fences.
- Waterworks maintenance workers maintain and repair waterworks equipment and facilities.
- Gas maintenance workers perform routine maintenance and minor repairs to exterior and underground gas mains and distribution lines.
- Automotive mechanical installers and servicers install parts such as mufflers, exhaust pipes and shock absorbers, and perform oil changes and other routine maintenance on motor vehicles and heavy equipment.
- Pest controllers and fumigators apply chemical and other treatments to buildings and outside areas to remove and destroy insects and other pests.
- Other repairers and servicers repair and service a wide variety of products such as cameras, musical instruments and coin and vending machines.

Education, Training & Experience

- People in this group usually need some high school education. Many recent entrants have a high school diploma.
- They usually receive on-the-job training.
- Some require college or other courses or experience in their company.
- Residential and commercial installers and repairers usually need experience and may require a driver's licence.
- Pest controllers and fumigators require a pesticide applicator licence.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

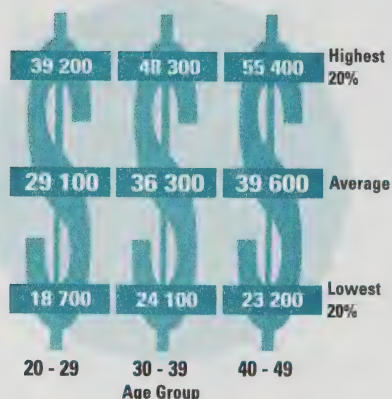
In These Occupations...

- 45,000 people were employed in 1998, a decrease of 1.2% from 1988. However, after declining 6.8% over the 1988 to 1993 period, employment increased 6.1% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 42% are residential and commercial installers and servicers and 20% are automotive mechanical installers.
- 12% work part-time, compared to an average of 19% for all occupations.
- 18% are self-employed, compared to an average of 17% for all occupations.
- 4% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 10.3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations with similar education/training requirements.
- the average earnings are comparable to other occupations with similar education/training requirements and to other occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Conditions are likely to vary widely among the many occupations in this group.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the construction and retail trade industries.

Earnings



Overall Average for All Ages (15+)

33 300	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



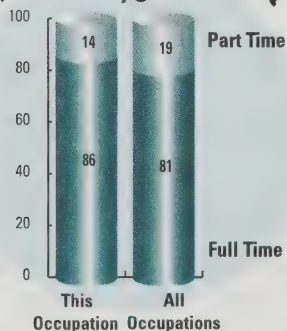
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Longshore Workers and Material Handlers and Related Occupations

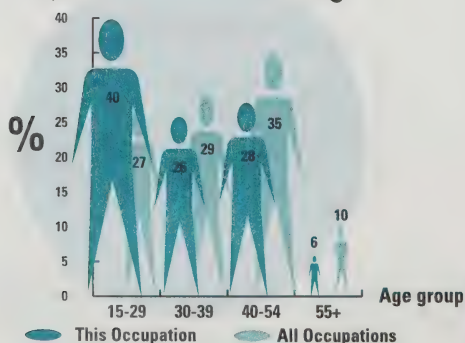
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in marine cargo handling companies; shipping agencies and shipping lines; transportation, storage and moving companies; and a wide variety of manufacturing and processing companies and retail and wholesale warehouses.

- Longshore workers operate industrial trucks, tractors and other mobile equipment to transfer containers and other cargo within range of cranes and hoists on dock areas. They operate winches and other hoisting devices to load and unload cargo on and off ships, and operate mechanical towers to load vessels with materials such as coal and ore. They also operate equipment to transfer bulk items such as grain to vessel holds and liquid materials to vessel storage tanks.
- Material handlers (manual) load, unload and move products by hand or on dollies or other basic material handling equipment.
- Material handlers (equipment operators) operate winches and other loading devices, industrial trucks, tractors and loaders to transport and retrieve materials. They also operate various types of equipment and conveyors to handle liquid, bulk and other materials.

This group also includes dockworkers, stevedores, ship loader operators, tank loaders, bin fillers, coal handlers, furniture movers, lumber pilers, conveyer console operators, forklift truck operators, railway car and truck loaders, stockpilers and storage workers.

Education, Training & Experience

- People in this group usually require secondary school education. Many recent entrants have a high school diploma.
- Longshore workers receive on-the-job training.
- Material handlers (manual) must have the physical strength to work with heavy materials.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

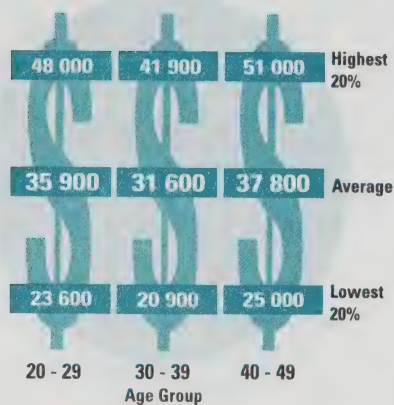
In These Occupations...

- 165,000 people were employed in 1998, an increase of 17.6% from 1988. After declining 8.0% over the 1988 to 1993 period, employment increased 27.8% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 94% are material handlers.
- 14% work part-time, compared to an average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 12% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 11.0% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations with similar education/training requirements.
- the average earnings are comparable to those for other occupations with similar education/training requirements but are among the lowest for occupations in the trades, transport and equipment operation sectors.

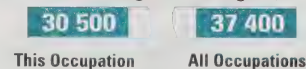
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities and earnings are both well below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Automation of transfer systems will continue to affect demand for labour negatively in these occupations.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the wholesale trade, truck transportation, retail trade and business services industries.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

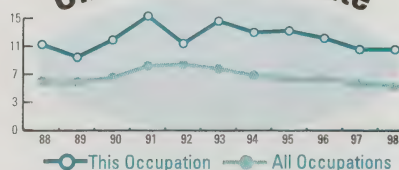
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



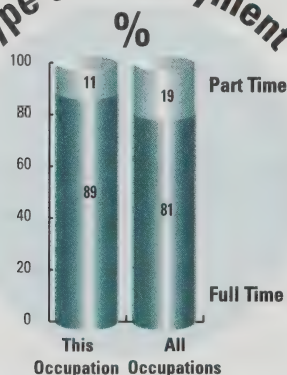
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Trades Helpers and Labourers

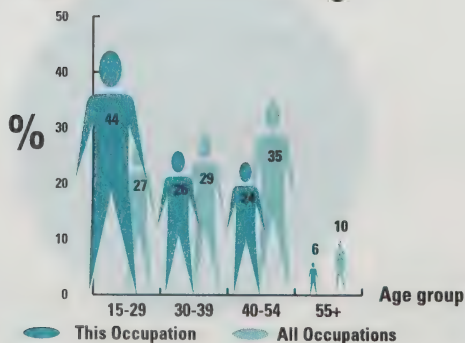
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in construction companies, for trade and labour contractors, and for a wide variety of manufacturing, utility and service companies. They assist skilled tradespersons and perform labouring activities. Their duties may require them to:

- move, load and unload materials;
- erect and dismantle structures;
- mix, pour, spread and rake materials;
- install, operate, maintain and repair equipment and machinery;
- oil and grease equipment;
- assist in drilling and blasting rock;
- tend and feed machines such as mixers and compressors;
- direct traffic near construction sites;
- mix fertilizers, herbicides and pesticides; and
- assist in land surveying by holding and moving stakes and rods.

This occupational group also includes trades helpers and labourers who work in activities involving the installation, maintenance and repair of industrial machinery, refrigeration, heating and air conditioning equipment, transportation and heavy equipment, and telecommunication and power cables.

Education, Training & Experience

- People in this group may require some high school education. Many recent entrants have a high school diploma.
- Construction labourers may need general construction labouring experience.
- Some receive on-the-job training.
- Construction labourers in large-diameter oil and gas pipeline construction usually require one season's experience in this type of oil and gas pipeline construction.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

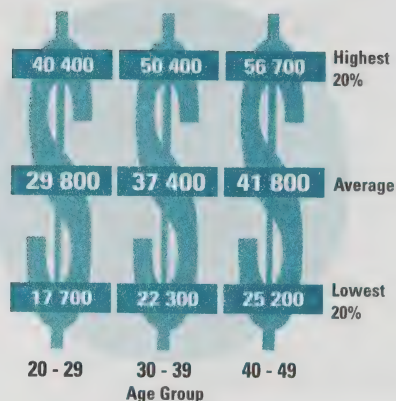
In These Occupations...

- 102,000 people were employed in 1998, a decrease of 9.4% from 1988. This reflects a decrease of 5.2% from 1988 to 1993 and 4.4% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 90% are construction trades helpers and labourers.
- 11% work part-time, compared to an average of 19% for all occupations.
- 5% are self-employed, well below the average of 17% for all occupations.
- 5% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 24.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations with similar education/training requirements and for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to other occupations with similar education/training requirements but are among the lowest for occupations in the trades, transport and equipment operation sectors.

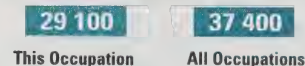
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities are below average and earnings are well below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- New technology, such as improved concrete-pouring machinery, continues to have a negative impact on demand for labour in these occupations. Use of more sophisticated equipment will increase the educational and skill requirements of these jobs.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

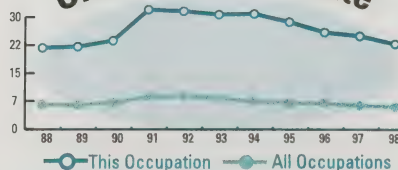
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



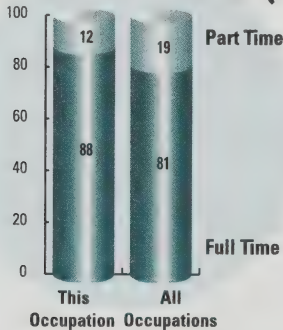
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Public Works and Other Labourers

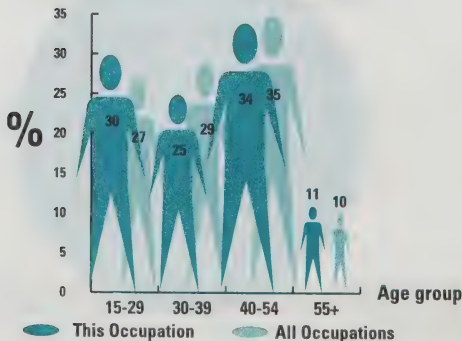
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in municipal, provincial, territorial and federal government public works departments; for private contractors under contract to governments; and for railway and motor transport companies.

- Public works and maintenance labourers clean debris and snow from sidewalks, streets, roads and other areas; spread sand and salt on sidewalks; shovel materials; dig ditches and trenches; and spread concrete and asphalt on road surfaces using rakes and other hand tools. They operate jackhammers, drills, power mowers and cutters and may operate mobile sidewalk cleaning machines.
- Railway labourers transport tools and equipment on push or hand cars and assist railway track maintenance workers to lay, maintain and repair railway tracks.
- Motor transport labourers assist truck and delivery drivers to load and unload vehicles and perform labouring duties in warehouses.

This occupational group also includes garbage collectors; parking meter collectors; road and sewer maintenance workers; railway car checkers; signal gang helpers; and furniture mover, moving van and truck driver helpers.

Education, Training & Experience

- People in this group have different educational requirements depending on their area of work. Many recent entrants have a high school diploma.
- Public works and maintenance labourers receive on-the-job training.
- Railway and motor transport labourers usually require some high school education.
- With experience, they may progress to supervisory positions or to those requiring greater skills.

Check out the 'big picture' in
"World of Work: Overviews and Trends"

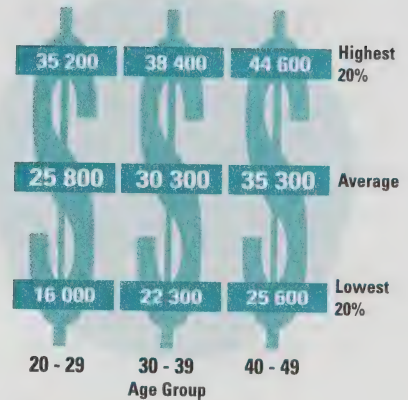
In These Occupations...

- 20,000 people were employed in 1998, an increase of 17.6% from 1988. After employment gains of 11.8% from 1988 to 1993, employment growth slowed to 5.1% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 87% are public works and maintenance labourers.
- 12% work part-time, compared to an average of 19% for all occupations.
- 2% are self-employed, well below the average of 17% for all occupations.
- 10% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 13.0% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the trades, transport and equipment operation sectors.
- the average earnings are comparable to those for other occupations with similar education/training requirements but are among the lowest for occupations in the trades, transport and equipment operation sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities are below average and earnings are well below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Continued restructuring in the public sector and the accompanying contracting-out are likely to have a negative impact on labour demand in these occupations.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the local administration, public transit and water and other utilities industries.

Earnings



Overall Average for All Ages (15+)

25 800	37 400
This Occupation	All Occupations

Work Prospects

CURRENT 2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



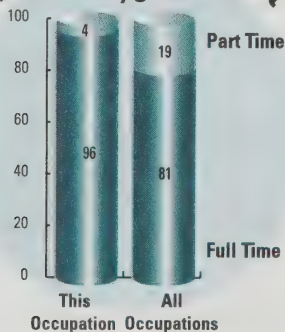
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Supervisors, Logging and Forestry

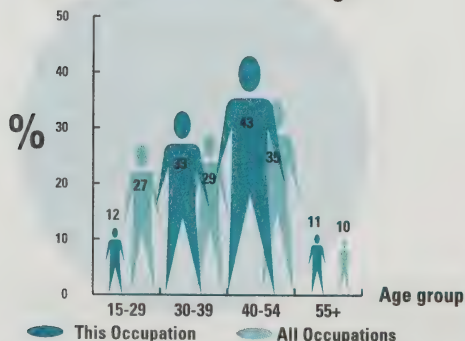
Where They Work



Type of Employment



Distribution by Age



At Work

These supervisors are employed by logging companies, contractors and government agencies. Their duties may require them to:

- supervise and coordinate the activities of logging and forestry workers in woodland operations and the activities of silviculture workers engaged in scarification, planting and vegetation control activities;
- schedule work crews, equipment and transportation for several work locations;
- resolve problems and recommend measures to improve work methods;
- instruct workers in safety and recognize unsafe work conditions;
- ensure that operations meet government regulations;
- communicate with forestry professional, technical and management personnel regarding forest harvesting and forest management plans;
- prepare production and other reports; and
- hire and train new workers.

This occupation also includes hook tenders, logging contractors, woods foremen and forewomen, and supervisors of forest operations and silviculture.

Education, Training & Experience

- These supervisors usually need a high school diploma. Many recent entrants have a community college diploma or an undergraduate university degree.
- They may require a one- to three-year college program for forestry technologists or technicians.
- They receive formal company training and on-the-job training.
- They usually need several years' experience as loggers, silviculture workers or logging machinery operators.
- They may require a chemical application licence and an industrial first-aid certificate.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

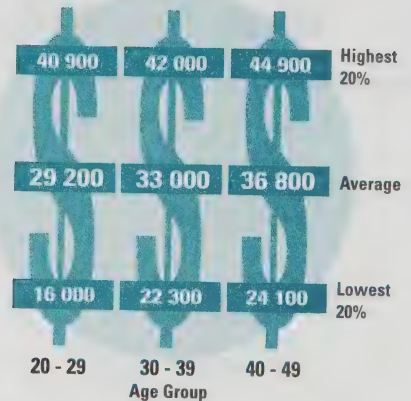
In These Occupations...

- 8,000 people were employed in 1998, an increase of 6.2% from 1988. However, after rising 8.0% over the 1988 to 1993 period, employment decreased 1.6% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 4% work part-time, well below the average of 19% for all occupations.
- 59% are self-employed, well above the average of 17% for all occupations.
- 3% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 6.8% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations but are among the highest for occupations in the primary industry sector.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both above the average levels for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.

Earnings



Overall Average for All Ages (15+)

38 200

37 400

This Occupation

All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

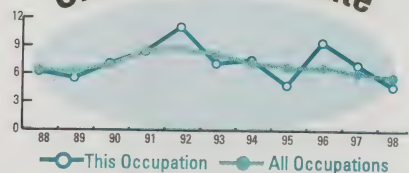
FAIR

FAIR

LIMITED

LIMITED

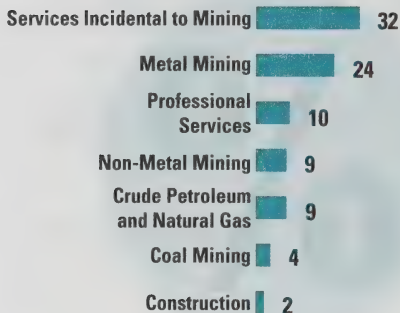
Unemployment Rate



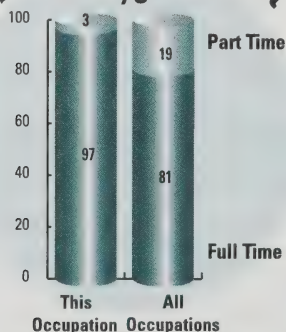
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Supervisors, Mining, Oil and Gas

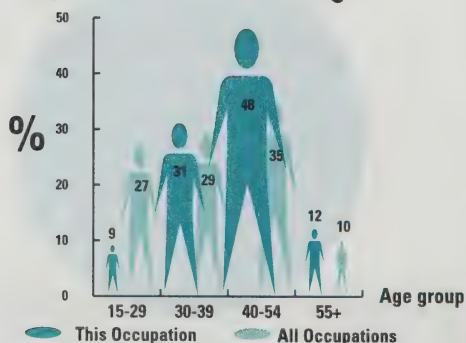
Where They Work



Type of Employment



Distribution by Age



At Work

These supervisors work for coal, metal and non-metal mineral mining and quarrying companies, and for drilling and well service contractors and petroleum producing companies. Their duties may require them to:

- supervise the activities of workers in underground and surface mines and quarries, or workers who drill for oil and gas, operate service rigs or provide oil and gas services;
- establish work schedules and coordinate work activities with other departments;
- oversee safety of operations;
- resolve work problems and recommend measures to improve productivity;
- recommend hirings and promotions;
- train workers in job duties, safety procedures and company policies;
- requisition materials and supplies; and
- prepare production and other reports.

This occupational group also includes mine captains; shift, track and yard bosses; rig managers; multiservice operators; and tool pushers.

Education, Training & Experience

- These supervisors must have a high school diploma. Many recent entrants have some post-secondary qualification.
- Mining and quarrying supervisors may need a college or university program in mining technology or engineering. They usually require several years' experience and may require provincial certification.
- Oil and gas drilling and service supervisors require extensive experience - eight years or more - in the occupations they are supervising. They also need first-aid, hydrogen-sulphide awareness, blowout prevention and other safety certificates. They may also require a college diploma in petroleum engineering technology.
- In addition, drilling supervisors and rig managers need college or industry courses for drillers and supervisors.
- Well service supervisors require college or industry courses and several years' experience.

**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

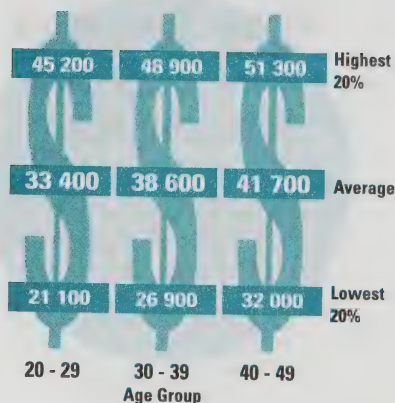
In These Occupations...

- 12,000 people were employed in 1998, an increase of 5.8% since 1988. However, after rising 11.0% over the 1988 to 1993 period, employment decreased 4.7% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 56% are supervisors in mining and quarrying and 44% are supervisors in oil and gas drilling and services.
- 3% work part-time, well below the average of 19% for all occupations.
- 30% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 5% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 3.7% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the primary industry sector.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the primary industry sector.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are above the average level for comparable occupations and earnings are well above average.
- Over the next five years, this outlook is not expected to change. The number of job openings for mining, oil and gas supervisors is expected to increase more rapidly than the number of qualified job seekers, mostly due to a high retirement rate.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the mining services and non-metal mining industries.

Earnings



Overall Average for All Ages (15+)

46 900

37 400

This Occupation

All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

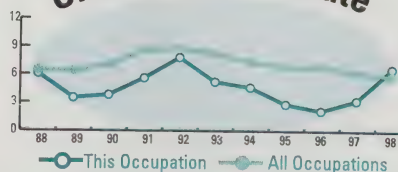
FAIR

FAIR

LIMITED

LIMITED

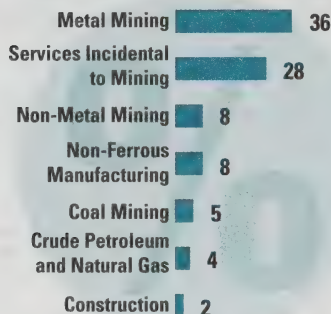
Unemployment Rate



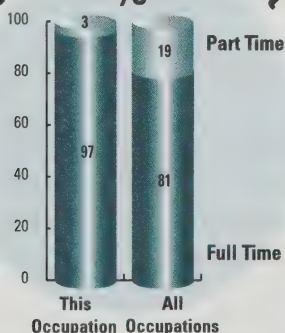
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Underground Miners, Oil and Gas Drillers and Related Workers

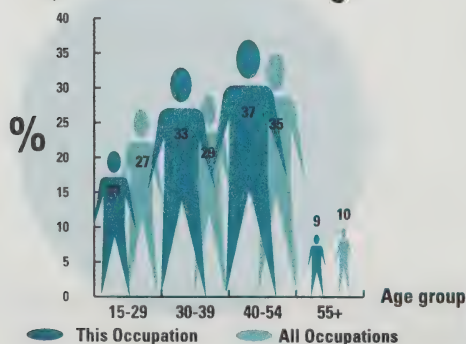
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in coal, metal and non-metallic mineral underground mines; for specialized mine, drilling and well service contractors; and for petroleum producing, well logging and testing companies.

- Underground production and development miners operate drilling and mining machines, load and detonate explosives, and perform other activities in underground mining.
- Oil and gas drillers and well servicers direct drill crews in setting up rigs during drilling activities and completing or servicing wells. They operate drill or service rig machinery controls.
- Oil and gas well loggers, testers and related workers operate specialized mechanical and electronic equipment, tools and instruments to provide services for well drilling, completion and servicing.

This occupational group also includes blasters, jumbo drill operators and mining machine operators, electric line operators, service rig operators and well testing operators.

Education, Training & Experience

- People in this group usually have a high school diploma. In some cases, appropriate experience may replace this educational requirement. Many recent entrants have a high school diploma.
- They usually require industry or college courses, supervised on-the-job training and experience in subordinate positions such as mine labourer and rig crew member.
- Underground production and development miners often need company licensing or certification, and may require blasting licences.
- Those working in the oil and gas occupations need first-aid, hydrogen-sulphide awareness, blowout prevention and other safety certificates.
- Offshore drillers require several years' experience in similar land positions.
- Certification is available in underground hard rock mining in Ontario.
- Company licensing or certification is usually required for these occupations.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

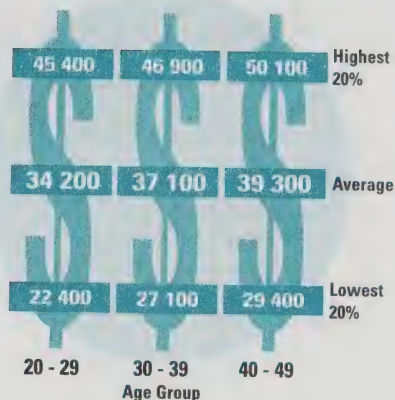
In These Occupations...

- 21,000 people were employed in 1998, a decrease of 1.6% from 1988. However, after declining 26.9% over the 1988 to 1993 period, employment increased 34.5% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 77% are underground miners; and 23% are oil and gas well drillers, servicers and testers.
- 3% work part-time, well below the average of 19% for all occupations.
- 14% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 2% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 7.5% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the primary industry sector.
- employment changes tend to mirror movements in overall economic activity.

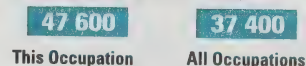
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average, although earnings are well above average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- In oil drilling, the greatest demand is expected to be for specialized directional and high-tech drillers.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the non-metal mining and mining services industries.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

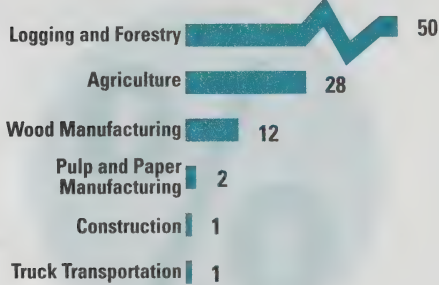
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Logging Machinery Operators

Where They Work



At Work

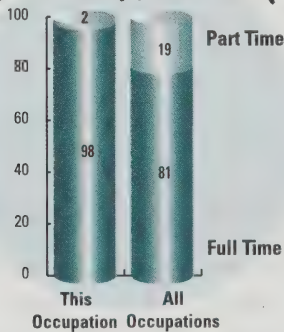
People in this occupation work for logging companies and contractors and in a variety of other industries such as wood, and pulp and paper manufacturing, construction, and retail trade.

- Cable yarding system operators use machines to transport trees from logging sites to landing sites and log-loading locations in mountainous terrain.
- Mechanical harvester and forwarder operators assess logging sites and drive heavy equipment to perform a combination of felling, slashing, bucking (sawing trees into logs), bunching and forwarding operations at logging sites.
- Mechanical tree processor and loader operators use machines to perform a combination of slashing, bucking, bunching, chipping, sorting and loading operations at landing sites.

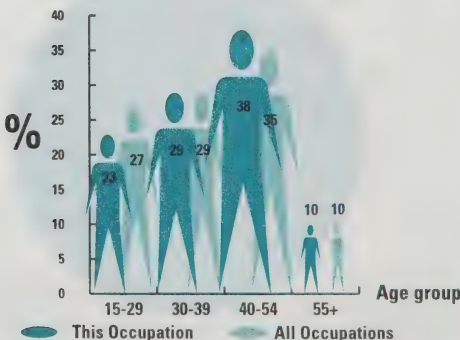
Education, Training & Experience

- People in this occupation usually require secondary school education.
- Employers provide them with on-the-job training, which varies from three to sixteen months, depending on the type of woodland operation and the machinery operated.
- Logging machine operators may require heavy equipment operations certification, air brake certification, Workplace Hazardous Materials Information System (WHMIS) certification and company certification for mobile logging machinery operation.
- Mechanical harvester and forwarder operators may require chain saw and skidder operator experience.
- Feller buncher and cable yard operators usually require from three to five years' logging experience.
- Mechanical tree processor and loader operators usually require one to three years' logging experience.
- Company certification or training for heavy equipment may be required.

Type of Employment



Distribution by Age



Check out the 'big picture' in
"World of Work: Overviews and Trends"

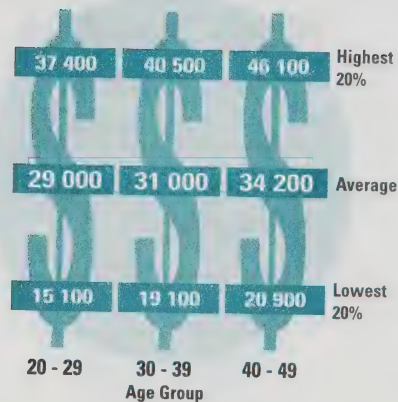
In These Occupations...

- 13,000 people were employed in 1998, an increase of 6.4% from 1988. After declining 2.2% over the 1988 to 1993 period, employment increased 8.8% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 2% work part-time, well below the average of 19% for all occupations.
- 16% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 1% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 19.4% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations and for occupations in the primary industry sector.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and are among the highest for occupations in the primary industry sector.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities are well below average, although earnings are at the average level for all occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.

Earnings



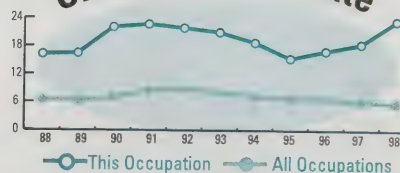
Overall Average for All Ages (15+)

37 400	37 400
This Occupation	All Occupations

Work Prospects

CURRENT	2004
GOOD	GOOD
FAIR	FAIR
LIMITED	LIMITED

Unemployment Rate



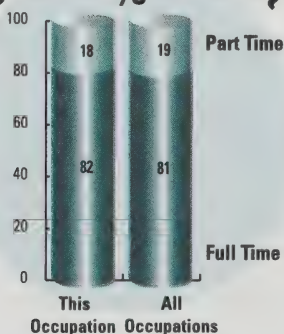
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Contractors, Operators and Supervisors in Agriculture, Horticulture and Aquaculture

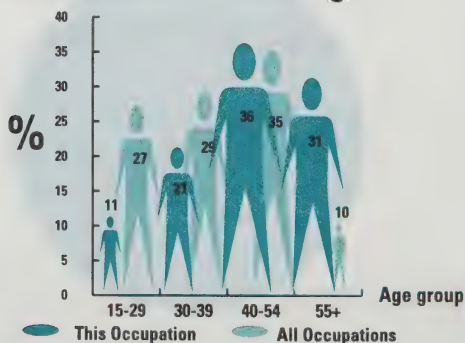
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for farmers, agricultural services, nurseries and greenhouses, landscaping companies, cemeteries, lawn care and tree service companies, landscaping departments of governments and other organizations, private fish hatcheries and commercial aquatic farms. They may also be self-employed.

- Farmers and farm managers manage the operations of farms, ranches and orchards. They grow crops and raise and breed farm animals and market farm products.
- Agricultural and related service contractors and managers direct and coordinate services such as artificial insemination, livestock shearing, ploughing, cultivating and harvesting.
- Specialized livestock workers carry out feeding, health and breeding programs for livestock. They may also supervise farm workers and labourers.
- Nursery and greenhouse operators and managers direct and coordinate the activities of their staff who grow and market trees, shrubs, flowers and plants.
- Landscaping and grounds maintenance contractors and managers direct and coordinate the operations of landscaping, lawn care, tree and other services.
- Landscape and horticulture supervisors direct and coordinate the activities of associated workers.
- Aquaculture operators and managers direct and coordinate the operations of facilities that cultivate and harvest fish, shellfish and marine plants.

Education, Training & Experience

- People in this group may require some high school or a high school diploma. Many recent entrants have a high school diploma.
- They usually need a college diploma, and training and experience in agriculture, livestock husbandry, aquaculture, landscaping or horticulture.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

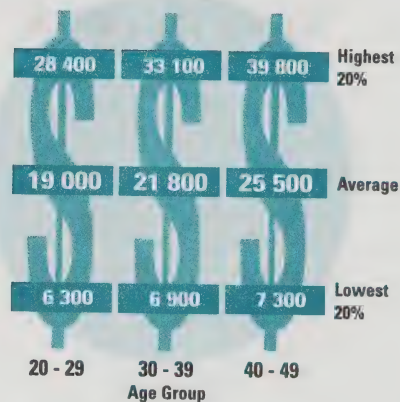
In These Occupations...

- 290,000 people were employed in 1998, an increase of 0.3% from 1988. After declining 1.0% over the 1988 to 1993 period, employment increased 1.3% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 87% are farmers and farm managers.
- 18% work part-time, compared to an average of 19% for all occupations.
- 91% are self-employed, well above the average of 17% for all occupations.
- 23% are women, well below the average of 45% for all occupations. The proportion of women in these occupations has increased significantly over the last ten years.
- the unemployment rate averaged 1.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the primary industry sector.
- the average earnings are among the lowest for technical, paraprofessional and skilled occupations and are comparable to those for other occupations in the primary industry sector.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are above average and earnings are below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Increasing adoption of biotechnology and computerized systems in farming will require farm managers to learn skills in these areas.
- Most of the increase in employment requirements through 2004 for these occupations will occur in the agricultural industry.

Earnings



Overall Average for All Ages (15+)

27 500	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

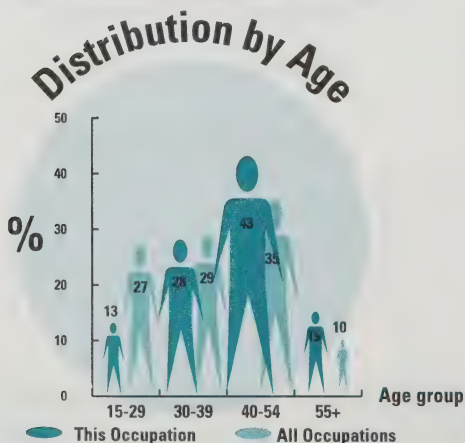
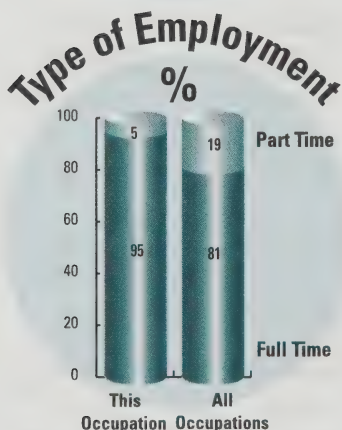
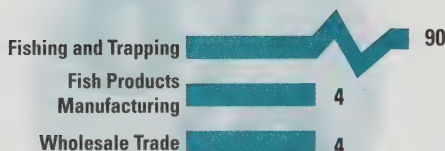
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Fishing Vessel Masters and Skippers and Fishermen/women

Where They Work



At Work

People in this group work in commercial fishing vessel organizations. They may also be self-employed operators of fishing vessels.

- Fishing masters and officers command vessels greater than 100 gross tonnes to catch fish and other marine life. They determine fishing areas, pilot courses and compute navigational positions, steer vessels and operate navigational instruments to locate catch. They also direct operations and supervise activities of their crew.
- Fishing vessel skippers and fishermen/women operate vessels to catch fish and other marine life. They operate gear, direct operations and supervise crew members. They also estimate operation costs, plan budgets and establish marketing plans. They may transport fish to processing plants and fish buyers.

This occupational group also includes longliners and seiners.

Education, Training & Experience

- People in this group require commercial fishing licences.
- Fishing masters and officers usually require some high school education. They must have one to two years' experience as fishing vessel deckhands and a fishing master's certificate.
- Captains also require one year's service as officer in charge of the watch.
- Fishing vessel skippers and fishermen/women usually require several years' experience as fishing vessel crew members or helpers. They must have a licence for each fish species they catch.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

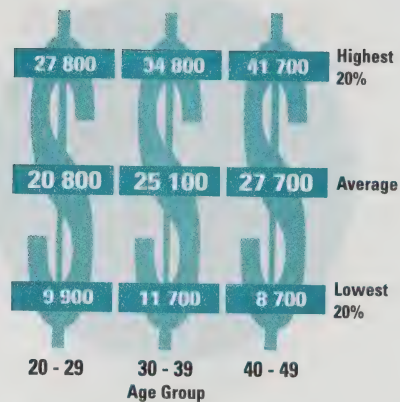
In These Occupations...

- 22,000 people were employed in 1998, a decrease of 7.9% from 1988. After rising 4.9% over the 1988 to 1993 period, employment decreased 12.3% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 91% are fishing vessel skippers and fishermen/women.
- 5% work part-time, well below the average of 19% for all occupations.
- 88% are self-employed, well above the average of 17% for all occupations.
- 7% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 8.5% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for technical, paraprofessional and skilled occupations.
- the average earnings are among the lowest for technical, paraprofessional and skilled occupations and are comparable to other occupations in the primary industry sector.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" due to long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The future of these occupations depends on the future of fish stocks and on the industry's ability to diversify the species fished. A more conservation-oriented approach to fishing may require people in these occupations to learn new methods and skills.

Earnings



Overall Average for All Ages (15+)

30 200	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

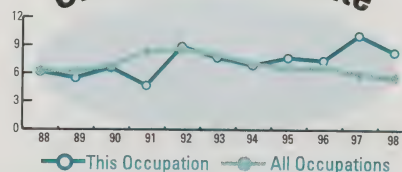
FAIR

FAIR

LIMITED

LIMITED

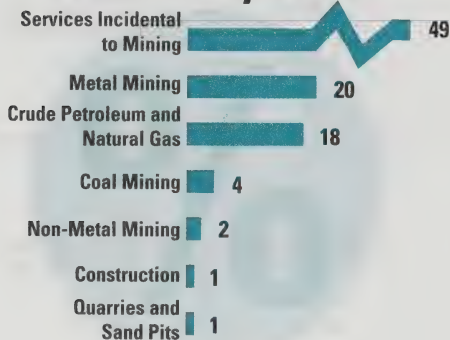
Unemployment Rate



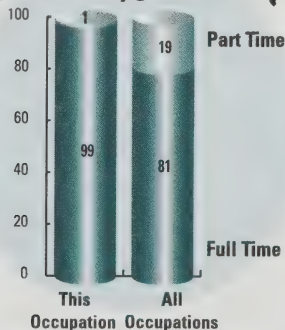
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Mine Service Workers and Operators in Oil and Gas Drilling

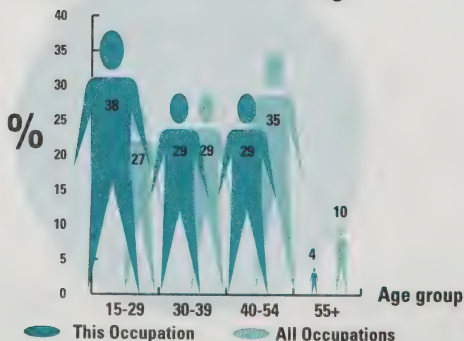
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for coal, metal and non-metallic mineral mines; drilling and well service contractors; and petroleum producing companies.

- Underground mine service and support workers perform a wide range of mining activities related to the operations of orepasses, chutes and conveyor systems; the construction and support of underground structures, passages and roadways; and the provision of materials and supplies. They operate bulldozers, graders, and diesel and electric track haulage equipment.
- Oil and gas drilling workers operate drilling machinery and service rig machinery equipment such as drilling mud systems and pumps, diesel motors, transmissions and other mechanical equipment, and perform other activities as intermediate members of drilling rig crews.
- Oil and gas well services operators drive trucks and operate specialized hydraulic pumping systems to place cement in wells and to treat wells with chemicals, sand mixtures and gases to stimulate production.

Education, Training & Experience

- People in this group require different educational and training backgrounds depending on their area of work. Many recent entrants have a high school diploma.
- Underground mine service and support workers usually have a high school diploma, formal and on-the-job training as helpers or in support occupations, and experience as mine labourers. They often require company licensing or certification. They may also obtain basic common core program certification.
- Oil and gas drilling workers and services operators may require a high school diploma and first-aid, hydrogen-sulphide awareness, blowout prevention or other safety certificates. They usually require industry experience as an assistant or labourer.
- Oil and gas well services operators require training with experienced operators.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

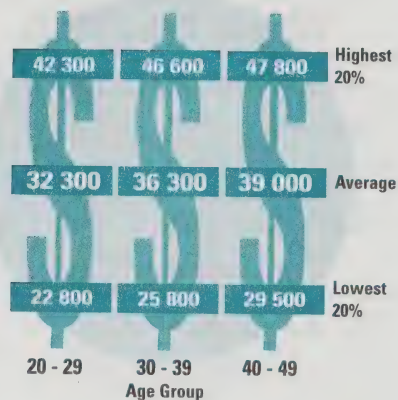
In These Occupations...

- 9,000 people were employed in 1998, an increase of 23.2% from 1988. After declining 8.2% over the 1988 to 1993 period, employment increased 34.2% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 66% are oil and gas well drilling workers and services operators and 34% are underground mine service and support workers.
- 1% work part-time, well below the average of 19% for all occupations.
- 3% are self-employed, well below the average of 17% for all occupations.
- 1% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 13.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations with similar education/training requirements and for occupations in the primary industry sector.
- the average earnings are among the highest for occupations with similar education/training requirements and for occupations in the primary industry sector.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since earnings are well above average and employment opportunities are below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Conditions in these occupations are always volatile, depending as they do on fluctuating commodities prices in international markets.

Earnings



Overall Average for All Ages (15+)

44 900	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

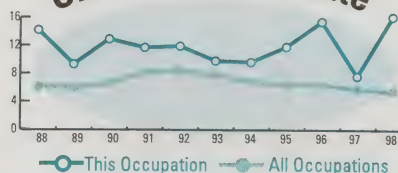
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



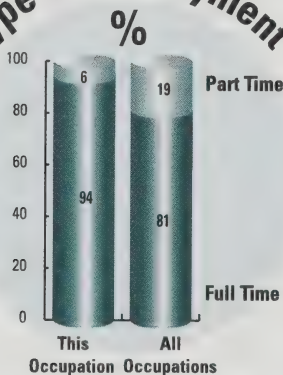
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Logging and Forestry Workers

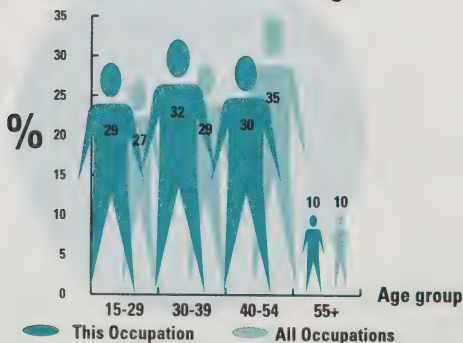
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for logging companies and contractors in wood manufacturing, in government services and in a variety of other industries.

- Chain saw operators fell, delimb and buck trees (cut trees into logs).
- Skidder operators use cable and grapple skidders to move and yard felled trees from logging sites to landing areas for processing and transportation.
- Silviculture and forestry workers plant tree seedlings, thin and space trees in reforestation areas, control weeds and undergrowth, fight forest fires under direction, and operate chain saws, skidders, bulldozers and other equipment to carry out duties for the improvement and conservation of forest lands. They also perform other activities such as collecting seed cones, pruning trees and marking trees for later operations.

This occupational group also includes buckers, fallers, fellers, landingmen/women, forest-fire fighters and operators of spacing, thinning and clearing saws.

Education, Training & Experience

- People in this group may require a high school diploma. Many recent entrants have a high school diploma.
- They may need a college or other specialized forestry worker or silviculture program and Workplace Hazardous Materials Information System (WHMIS) certification.
- They may need experience as logging and forestry labourers or logging machine operators.
- Chain saw and skidder operators may require accreditation as forest workers. Employers usually provide them with formal training in chain saw operation and maintenance and several months' on-the-job training.
- Silviculture and forestry workers require a chemicals application licence and may need a silviculture worker's licence. Employers usually provide them with formal training in power saw operation and maintenance and several months' on-the-job training.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

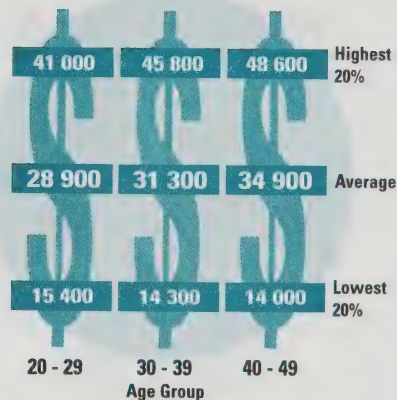
In These Occupations...

- 25,000 people were employed in 1998, a decrease of 0.9% from 1988. However, after declining 10.3% over the 1988 to 1993 period, employment increased 10.5% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 70% are chain saw and skidder operators and 30% are silviculture and forestry workers.
- 6% work part-time, well below the average of 19% for all occupations.
- 25% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 5% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 24.0% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations with similar education/training requirements and for occupations in the primary industry sector.
- the average earnings are among the highest for occupations with similar education/training requirements and for occupations in the primary industry sector.

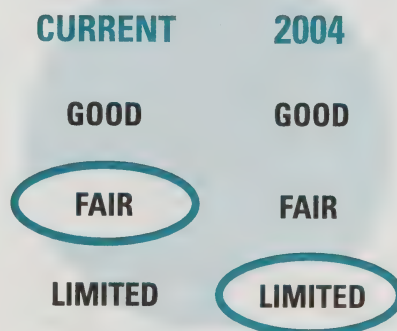
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since earnings are well above the average level for comparable occupations but employment opportunities are well below average.
- Over the next five years, the outlook is expected to weaken to "Limited", as the number of qualified job seekers is expected to exceed the number of job openings, due to continuing employment losses.
- Workers who specialize in silviculture and forestry management may have better employment opportunities.

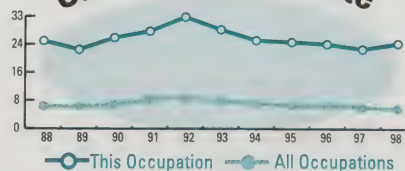
Earnings



Work Prospects



Unemployment Rate



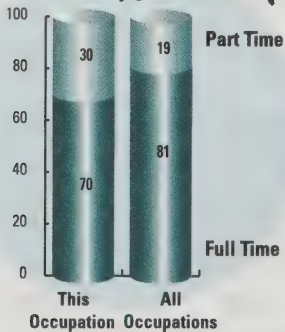
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Agriculture and Horticulture Workers

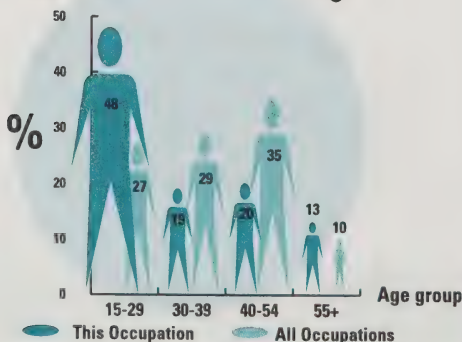
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work on crop, livestock, fruit, vegetable and specialty farms, and in indoor and outdoor nurseries and greenhouses.

- General farm workers plant, fertilize, cultivate, spray, irrigate and harvest crops; feed and attend to livestock and poultry; operate and maintain farm machinery and equipment; and prepare produce for market. They may specialize in a particular type of crop or livestock.
- Nursery and greenhouse workers plant, cultivate and harvest trees, shrubs, flowers and plants and provide information on gardening to customers. They may operate tractors and other equipment to fertilize and spray fields and plants.

This occupational group also includes cowhands, fruit tree pruners and hydroponics workers.

Education, Training & Experience

- People in this group require different backgrounds depending on their area of work. Many recent entrants have a high school diploma.
- General farm workers may require basic farm knowledge usually obtained from experience. They may complete a college program or other specialized farming course in areas such as farm equipment mechanic, agricultural welding, tree pruning and pesticide application.
- Nursery and greenhouse workers may require a high school diploma, college courses in horticulture or a related field, and a provincial licence to apply chemicals such as fertilizers and pesticides. Employers provide them with on-the-job training.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

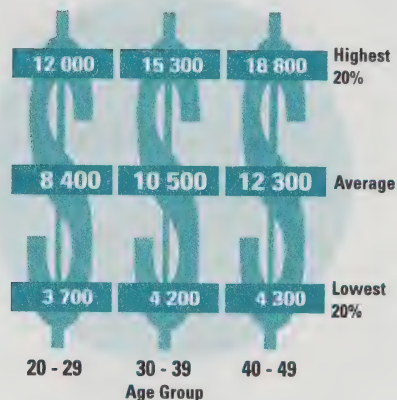
In These Occupations...

- 114,000 people were employed in 1998, a decrease of 21.0% from 1988. This reflects a decrease of 10.9% from 1988 to 1993 and 11.3% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 84% are general farm workers and 16% are nursery and greenhouse workers.
- 30% work part-time, well above the average of 19% for all occupations.
- 11% are self-employed, compared to an average of 17% for all occupations.
- 36% are women, compared to an average of 45% for all occupations.
- the unemployment rate averaged 11.8% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations with similar education/training requirements.
- the average earnings are among the lowest for occupations with similar education/training requirements but are comparable to those for other occupations in the primary industry sector.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" due to long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of qualified recent graduates or non-completers seeking work is expected to increase more rapidly than the number of job openings in these and related occupations.
- Agriculture will continue to restructure under competitive pressure and with the opening-up of markets under international trade agreements. The end result will likely be a smaller, more highly skilled agricultural labour force.

Earnings



Overall Average for All Ages (15+)

26 700	37 400
This Occupation	All Occupations

Work Prospects

CURRENT **2004**

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

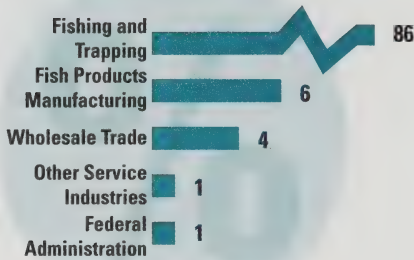
Unemployment Rate



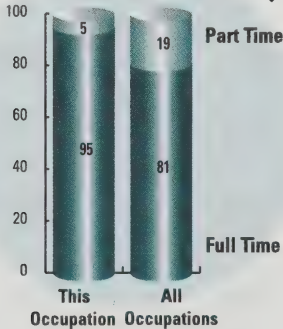
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Other Fishing and Trapping Occupations

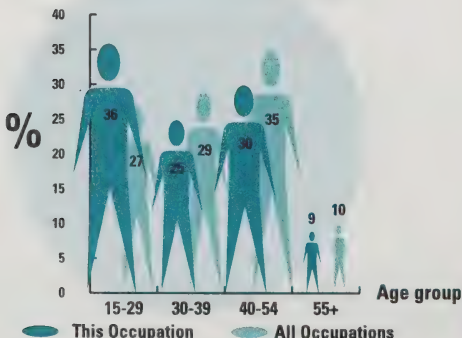
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for organizations that operate commercial fishing vessels, or are self-employed fishermen/women, trappers and hunters.

- Fishing vessel deckhands prepare nets, lines and other fishing tackle, and operate fishing gear to catch fish and other marine life. They clean, sort and pack fish; stow catch in holds; repair nets; splice ropes; and maintain fishing gear. They may also steer vessels to and from fishing areas and cook meals for crew members.
- Trappers set and position traps along trails; operate snowmobiles or travel on foot, snowshoes or skis to patrol traplines; kill and skin catch for pelts; and treat and market pelts. They also trap live animals for sale and relocation purposes, and trap designated animals for bounty and other animal control programs.
- Hunters operate boats and snowmobiles or travel on foot to reach hunting areas, kill wild animals with firearms and other weapons, skin animals for pelts, and treat, pack and transport pelts to processing plants and public auctions.

This occupational group also includes icers, crewmen/women and sealers.

Education, Training & Experience

- People in this group require different backgrounds depending on their area of work. Most recent entrants have not completed high school.
- Fishing vessel deckhands must have a commercial fishing licence. Employers provide them with on-the-job training.
- Trawlermen/women require a minimum of one year's experience.
- Trappers and hunters may require trapping or hunting courses in their province of work and a trapping or hunting licence.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

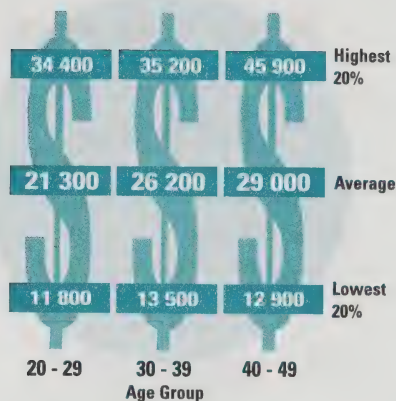
In These Occupations...

- 8,000 people were employed in 1998, a decrease of 31.3% from 1988. After rising 4.6% over the 1988 to 1993 period, employment decreased 34.3% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 74% are fishing vessel deckhands and 26% are trappers and hunters.
- 5% work part-time, well below the average of 19% for all occupations.
- 27% are self-employed, compared to an average of 17% for all occupations. The proportion of self-employed in these occupations has decreased significantly over the last ten years.
- 10% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 32.3% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations with similar education/training requirements and for occupations in the primary industry sector.
- the average earnings are comparable to those for other occupations with similar education/training requirements and for other occupations in the primary industry sector.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" due to large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as employment losses are expected to continue.
- The future of fishing occupations depends on the uncertain future of fish stocks and the industry's ability to diversify the species fished.

Earnings



Overall Average for All Ages (15+)

30 200	37 400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

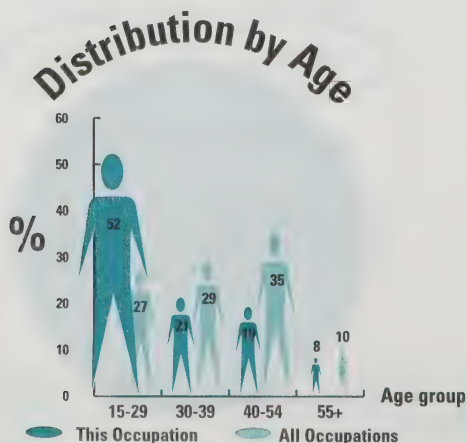
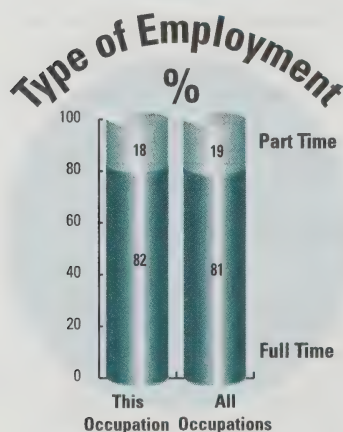
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Primary Production Labourers

Where They Work



At Work

These labourers work for farmers, orchard owners, landscaping and lawn care companies, landscaping departments, fish hatcheries, aquatic farms, oil and gas drilling and well servicing contractors, mineral miners and petroleum producing companies, logging companies and contractors, golf courses and cemeteries. They assist other workers.

- Harvesting labourers harvest, sort and pack crops.
- Landscaping and grounds maintenance labourers help construct and maintain landscapes by spreading soil, laying sod and planting, cutting, pruning, spraying and dusting flowers, grass, shrubs and trees.
- Aquaculture labourers help maintain fish stock and operate, clean and maintain equipment in fish hatcheries and aquatic farms.
- Marine plant gatherers collect and load seaweed, dulse and Irish moss.
- Shellfish harvesters dig, sort, clean and transport shellfish.
- Mine labourers help maintain, construct and clean underground mines, and load, move, sort and pile materials and supplies.
- Oil and gas drilling, servicing and related labourers handle sections of pipe and drill stems during drilling operations, and clean and maintain equipment.
- Logging and forestry labourers attach chokers and cables to felled trees, plant trees, spray herbicides, clear trails and clean landing areas.

Education, Training & Experience

- These labourers may need a high school diploma and specialized training. Many recent entrants have a high school diploma.
- Landscaping and grounds maintenance labourers may require a licence to apply chemical fertilizers and pesticides.
- Shellfish harvesters require a commercial fishing licence.
- Oil and gas drilling and servicing, logging and forestry labourers may require a Workplace Hazardous Materials Information System (WHMIS), safety or other certificate appropriate to their area of work.

**Check out the 'big picture' in
"World of Work: Overviews and Trends"**

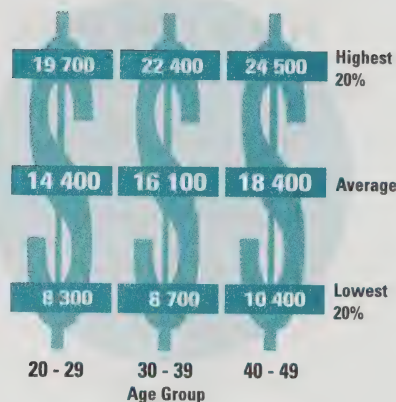
In These Occupations...

- 80,000 people were employed in 1998, an increase of 13.5% from 1988. Most of the growth occurred from 1993 to 1998, when employment increased 9.6%. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 67% are landscaping and grounds maintenance workers and 14% are logging and forestry labourers.
- 18% work part-time, compared to an average of 19% for all occupations.
- 11% are self-employed, compared to an average of 17% for all occupations.
- 17% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 24.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations with similar education/training requirements and for occupations in the primary industry sector.
- the average earnings are comparable to those for other occupations with similar education/training requirements and for other occupations in the primary industry sector.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities and earnings are both below average.
- Over the next five years, this outlook is not expected to change, as the number of qualified recent graduates or non-completers seeking work is expected to increase more rapidly than the number of job openings in these and related occupations.
- Machinery will continue to replace unskilled labour, resulting in decreased demand for labour in these occupations.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the construction, amusement and recreation services and household and personal services industries.

Earnings



Overall Average for All Ages (15+)

28 200	37 400
This Occupation	All Occupations

Work Prospects

CURRENT 2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

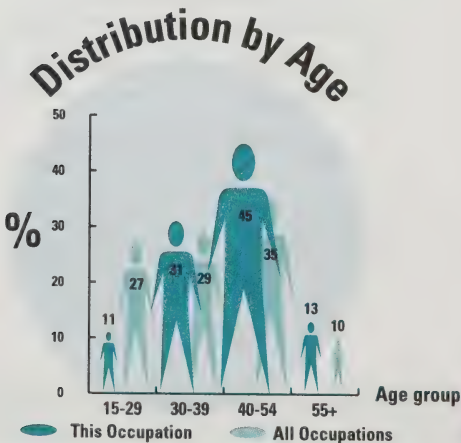
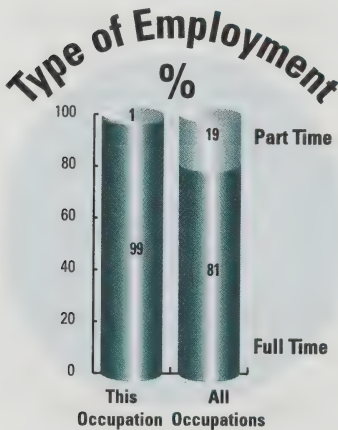
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Supervisors, Processing Occupations

Where They Work



At Work

These supervisors work for mineral ore and metal processing plants; petroleum and natural gas processing, pipeline, petrochemical, chemical and pharmaceutical companies; water and waste treatment utilities; fruit and vegetable processing plants; dairies; flour mills; bakeries; sugar refineries; fish and meat plants; breweries; food and beverage and tobacco processing organizations; rubber and plastic products manufacturing companies; pulp and paper companies; paper converting companies; sawmills; planing mills; wood treatment and waferboard plants; and textile companies. Their duties may require them to:

- direct, coordinate and schedule the activities of workers;
- establish methods to meet work schedules and coordinate work with other departments;
- ensure that systems and equipment operate efficiently;
- identify, investigate, correct and document potential environmental and safety problems;
- resolve work problems and recommend measures to improve productivity and product quality;
- requisition materials and supplies;
- train staff in job duties, safety procedures and company policies;
- prepare production and other reports; and
- manage operating budgets.

Education, Training & Experience

- These supervisors usually require a high school diploma. Many recent entrants have a trade/vocational or community college diploma or university degree.
- They usually require several years' experience in their area of work.
- Some may require special certificates and licences.
- Supervisors in food processing may require Hazard Analysis Critical Control Point (HACCP) training.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

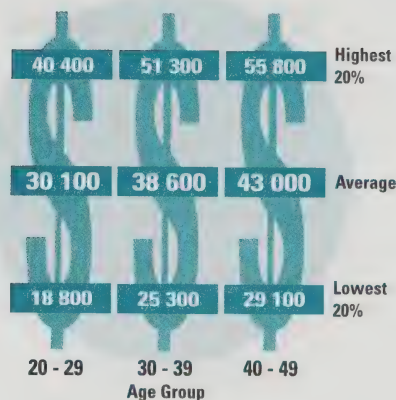
In These Occupations...

- 58,000 people were employed in 1998, a decrease of 0.8% from 1988. After rising 4.0% over the 1988 to 1993 period, employment decreased 4.5% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 22% of these supervisors are in gas and chemical processing and utilities; 21% are in food, beverage and tobacco processing; 20% are in forest products processing; and 19% are in mineral and metal processing.
- 1% work part-time, well below the average of 19% for all occupations.
- 16% are self-employed, compared to an average of 17% for all occupations.
- 11% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 2.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the processing, manufacturing and utilities sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the processing, manufacturing and utilities sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities and earnings are both well above the average levels for comparable occupations.
- Over the next five years, this outlook is not expected to change. The number of job openings for processing supervisors is expected to increase more rapidly than the number of qualified job seekers, mostly due to a high retirement rate in these occupations.
- There may be increased opportunities for new entrants with skills in the application of robotics and of computerized equipment in processing.
- Employment requirements for these occupations are expected to increase across a broad range of industries through 2004.

Earnings



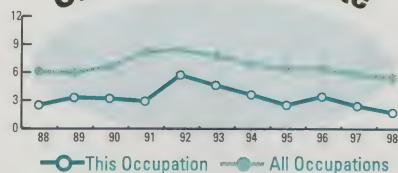
Overall Average for All Ages (15+)

39 400	37 400
This Occupation	All Occupations

Work Prospects



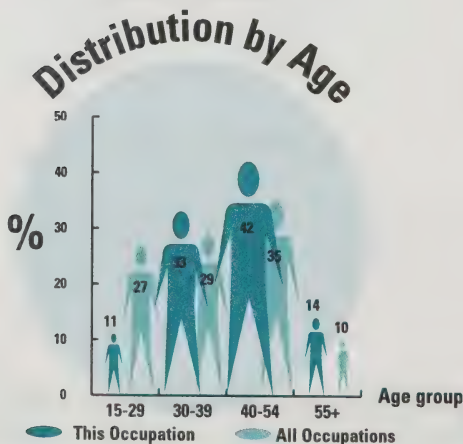
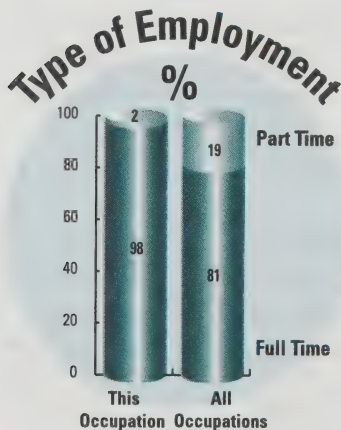
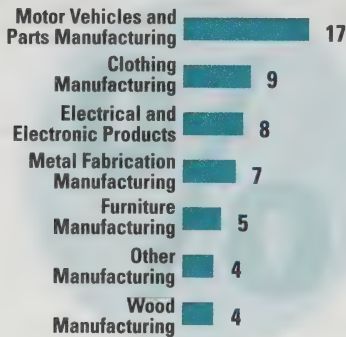
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Supervisors, Assembly and Fabrication

Where They Work



At Work

These supervisors work for manufacturers of automobiles, vans and light trucks, electronics parts, components and systems, electrical components, appliances, motors and industrial equipment, furniture and fixtures, aircraft and aircraft parts, heavy trucks, trailers, buses, motor vehicle engines, transmissions, heating equipment, commercial refrigeration and similar metal products, clothing, fabric products, textiles, leather, and other miscellaneous products such as jewellery, clocks, watches, millwork, sporting goods and toys. Their duties may require them to:

- direct, coordinate and schedule the activities of workers;
- establish methods to meet work schedules and coordinate work with other departments;
- ensure that systems and equipment operate efficiently;
- resolve work problems and recommend measures to improve productivity and product quality;
- requisition materials and supplies;
- train staff in job duties, safety procedures and company policies; and
- prepare production and other reports.

Education, Training & Experience

- These supervisors usually require some high school education or a high school diploma. Many recent entrants have a trade/vocational certificate, a community college diploma or a university degree.
- They usually need several years' experience as assemblers, fabricators, machine operators, testers, lead hands or inspectors, or have performed other work in the same company or industry.
- Supervisors in electronics manufacturing may require a two-year college program in electronics.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

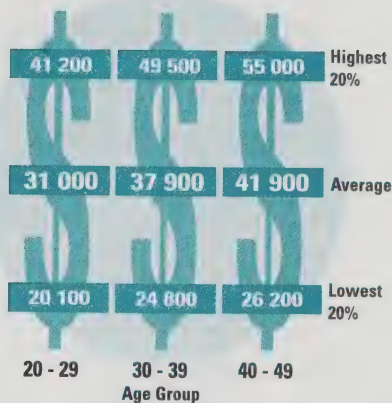
In These Occupations...

- 58,000 people were employed in 1998, an increase of 27.4% from 1988. After employment gains of 16.8% from 1988 to 1993, employment growth slowed to 9.1% from 1993 to 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 30% of these supervisors work in other mechanical and metal products; 19% work in motor vehicle assembling; and the rest work in a wide variety of manufacturing industries.
- 2% work part-time, well below the average of 19% for all occupations.
- 31% are self-employed, well above the average of 17% for all occupations. The proportion of self-employed workers in these occupations has increased significantly over the last ten years.
- 18% of these supervisors are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 2.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for technical, paraprofessional and skilled occupations and for occupations in the processing, manufacturing and utilities sectors.
- the average earnings are comparable to those for other technical, paraprofessional and skilled occupations and for other occupations in the processing, manufacturing and utilities sectors.
- employment changes tend to mirror movements in overall economic activity.

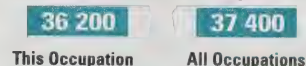
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Good", since employment opportunities are well above average, although earnings are at the average level.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the electrical and electronic products and non-electrical machinery industries.

Earnings



Overall Average for All Ages (15+)



Work Prospects



LIMITED LIMITED

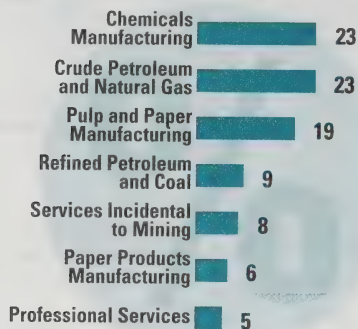
Unemployment Rate



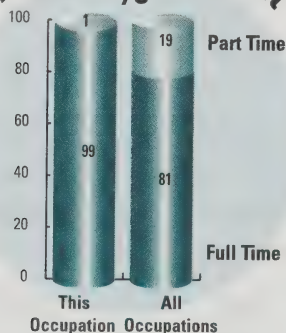
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Central Control and Process Operators in Manufacturing and Processing

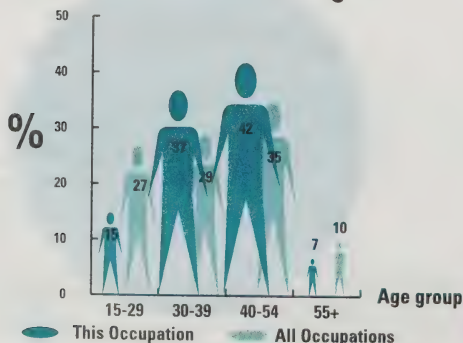
Where They Work



Type of Employment



Distribution by Age



At Work

These operators work in copper, lead, zinc and precious metal refineries; uranium and cement processing and aluminium plants; steel mills; petroleum and natural gas processing, pipeline, petrochemical, industrial, agricultural, specialty chemical, pharmaceutical and pulp and paper companies; and other plants.

- Central control and process operators process mineral ores, metals and cement.
- Petroleum, gas and chemical process operators run and monitor petroleum, petrochemical and chemical plants, and monitor, adjust and maintain processing units and equipment.
- Pulping control operators control the processing of wood, scrap pulp and other cellulose materials to produce pulp.

This occupational group also includes cement manufacturing console operators, beater engineers, pulp and paper cooks and back tenders.

Education, Training & Experience

- These operators usually require a high school diploma. Many recent entrants have a trade/vocational certificate or a community college diploma.
- Most need formal company training, on-the-job training and several years' experience as machine or process operators in the same company or department.
- Some may require an industrial first-aid certificate.
- Petroleum, gas and chemical process operators may need a college diploma in process operation, science or a related subject and various certificates and licences.
- Pulping control operators may require a college or other program in forest products processing or a related subject.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

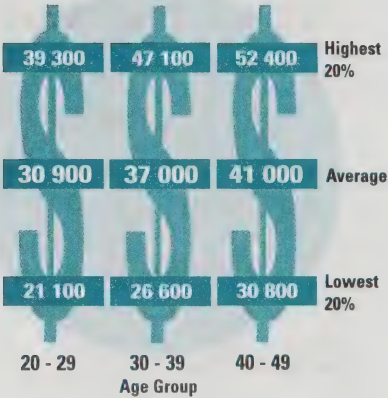
In These Occupations...

- 24,000 people were employed in 1998, a decrease of 16.6% from 1988. However, after declining 20.4% over the 1988 to 1993 period, employment increased 4.8% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 55% are petroleum, gas and chemical process operators and 23% are central control process operators.
- 1% work part-time, well below the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 11% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 3.6% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations in the processing, manufacturing and utilities sectors.
- the average earnings are among the highest for technical, paraprofessional and skilled occupations and for occupations in the processing, manufacturing and utilities sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Computer-integrated systems and advanced manufacturing technologies are increasing the level of computer skills needed by these operators.
- Employment requirements for these occupations are expected to increase across a broad range of industries through 2004.

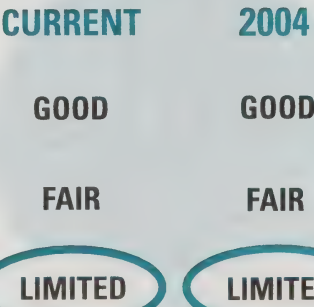
Earnings



Overall Average for All Ages (15+)



Work Prospects



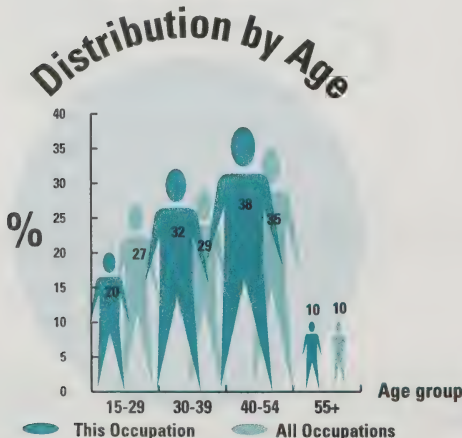
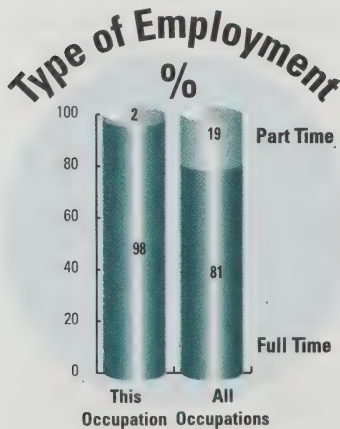
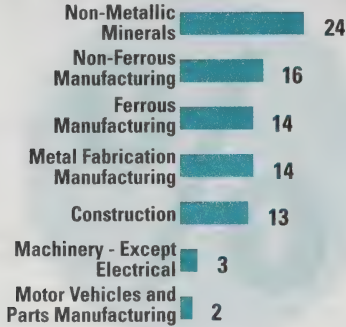
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Machine Operators and Related Workers in Metal and Mineral Products Processing

Where They Work



At Work

People in this group work in copper, lead and zinc refineries; uranium processing plants; steel mills; aluminum plants; precious metal refineries; cement processing and other mineral and metal processing plants; foundries; and glass and glass products, concrete, clay and stone manufacturing companies.

- Machine operators in mineral and metal processing prepare and treat mineral ore and metal products.
- Foundry workers make foundry moulds and cores by hand or machine, pour molten metal into moulds to produce castings and operate foundry furnaces to melt metals.
- Glass forming and finishing operators produce glass, glassware, bottles and other glass products.
- Glass cutters hand-cut flat glass to specified sizes and shapes.
- Concrete, clay and stone forming and finishing operators cast and finish concrete products, and produce concrete, clay and stone products.
- Inspectors and testers in mineral and metal processing inspect, grade, sample and test raw materials and products made during these processing operations.

Education, Training & Experience

- People in this group usually need some high school education. Many recent entrants have a high school diploma.
- They usually require experience as labourers or machine operator helpers or in other helper positions in their area of work.
- Mould makers for concrete products may require carpentry or woodworking experience for working with wooden forms.
- Inspectors and testers in mineral and metal processing may require experience as machine or process operators in that area of work.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

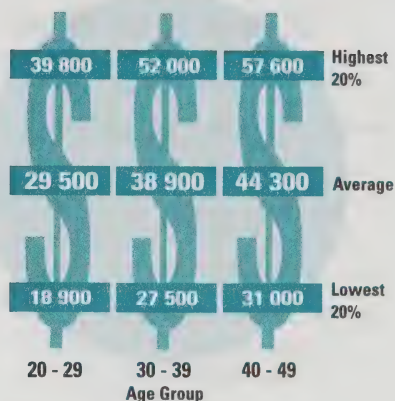
In These Occupations...

- 36,000 people were employed in 1998, a decrease of 10.1% from 1988. However, after declining 17.3% over the 1988 to 1993 period, employment increased 8.7% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 28% are machine operators in mineral and metal processing; 25% are foundry workers; and 20% are concrete, clay and stone forming operators.
- 2% work part-time, well below the average of 19% for all occupations.
- 2% are self-employed, well below the average of 17% for all occupations.
- 11% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 6.3% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for occupations with similar education/training requirements and are comparable to those for other occupations in the processing, manufacturing and utilities sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, the outlook is expected to improve to "Fair". The number of job openings is expected to increase more rapidly than the number of qualified job seekers, due to employment growth and the outflow of experienced workers from these occupations.
- New technology will require that foundry workers develop computer skills.
- Employment requirements for these occupations are expected to increase across a broad range of industries through 2004, with much of the increase in the non-metallic minerals and non-ferrous manufacturing industries.

Earnings



Overall Average for All Ages (15+)

38 000	37 400
This Occupation	All Occupations

Work Prospects

CURRENT 2004

GOOD

GOOD

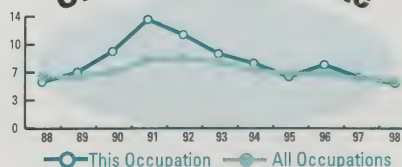
FAIR

FAIR

LIMITED

LIMITED

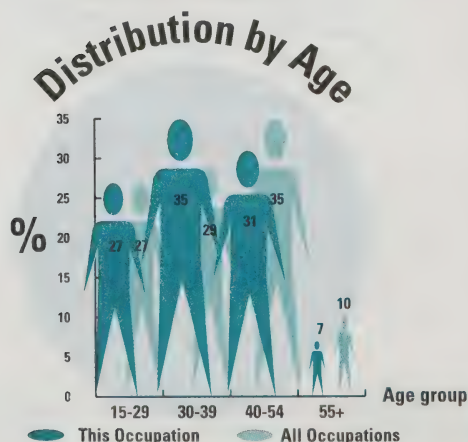
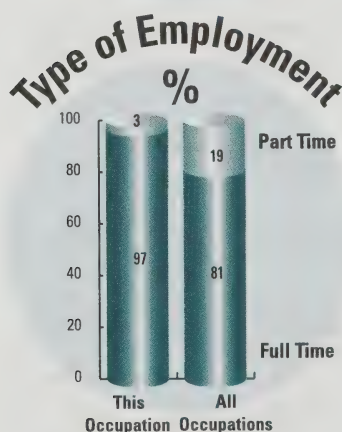
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Machine Operators and Related Workers in Chemical, Plastic and Rubber Processing

Where They Work



At Work

People in this group work for chemical, cleaning compound, ink and adhesive industries; plastics and rubber products manufacturing companies; tire manufacturers; municipal governments; and other industries, institutions and organizations.

- Chemical plant machine operators run machinery to blend, mix, process and package a wide range of specialty chemicals, pharmaceuticals, and cleaning and toiletry products.
- Plastics processing machine operators set up and run mixing, calendaring, extruding and moulding machines used to manufacture plastic parts and products.
- Rubber processing assemblers run moulding, laminating, calendaring and extruding machinery and equipment.
- Rubber processing inspectors examine finished rubber products.
- Water and waste plant operators monitor and run computerized control systems and related equipment to regulate water treatment and distribution, and the treatment and disposal of sewage and wastes.

Education, Training & Experience

- People in this group usually need some high school or a high school diploma and relevant industry or college courses.
- Some require on-the-job training and related work experience.
- Most occupations require training in the Workplace Hazardous Materials Information System (WHMIS), Statistical Process Control System (SPC) and electronics systems.
- Plastics moulding process operators may need hydraulics, pneumatics and electronics systems courses.
- Rubber plant machinery operators usually need a high school diploma and good math and computer skills.
- Water and waste plant operators must have courses in water pollution control.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

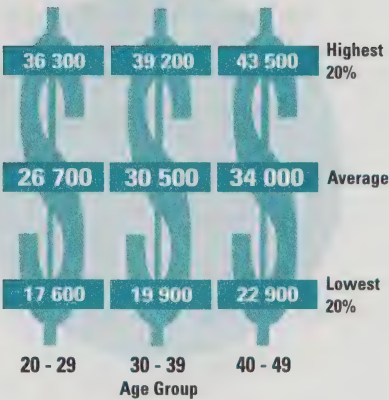
In These Occupations...

- 53,000 people were employed in 1998, an increase of 15.5% from 1988. After declining 11.3% over the 1988 to 1993 period, employment increased 30.3% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 41% are plastics processing machine operators; 24% are chemical plant operators; and 23% are rubber processing machine operators.
- 3% work part-time, well below the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 25% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 6.3% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other occupations with similar education/training requirements and for other occupations in the processing, manufacturing and utilities sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Continuing demand for lighter and stronger materials in manufactured goods should favour the demand for this occupational group.
- New equipment in the plastics industry is more complex and computer controlled. Increasing use of computerized equipment in these occupations could improve prospects for new entrants with appropriate education or experience.
- Most of the growth in employment requirements through 2004 for these occupations is expected to occur in the plastics manufacturing and rubber manufacturing industries.

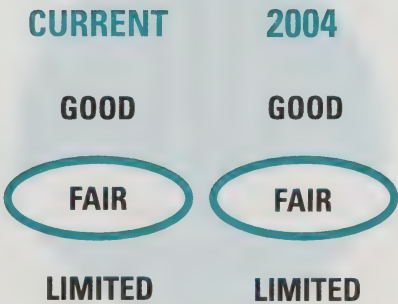
Earnings



Overall Average for All Ages (15+)

This Occupation	All Occupations
35 000	37 400

Work Prospects



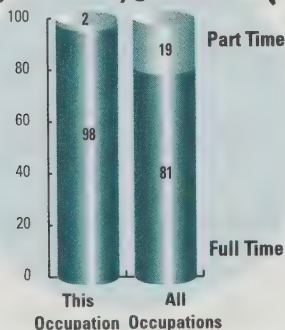
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Machine Operators and Related Workers in Pulp and Paper Production and Wood Processing

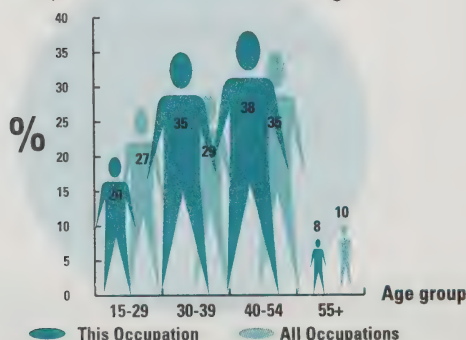
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for sawmills, planing mills, pulp and paper and other wood processing companies, wood treatment and waferboard plants, and paper products manufacturers.

- Sawmill machine operators control automated equipment to saw, trim and plane rough lumber, and saw and split shingles and shakes.
- Pulp mill machine operators run and monitor screening equipment, digesters, mixing tanks and other machinery to produce pulp.
- Other wood processing machine operators remove bark from logs, produce wood chips, preserve and treat wood and produce waferboard, plywood and similar wood products.
- Lumber graders and other wood processing inspectors and graders inspect and grade lumber, shingles, particle board and similar products.

Education, Training & Experience

- People in this group usually need some high school or a high school diploma. Many recent entrants have a high school diploma.
- Employers usually provide on-the-job training and may provide formal training.
- They may require experience in operating various machines as labourers or utility maintenance workers.
- They may need an industrial first-aid certificate.
- Pulp mill machine operators may require a college diploma in forest products processing or a related subject.
- Wood processing operators may need college or company courses.
- Lumber graders require a lumber grader's licence issued by a provincial lumber association.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

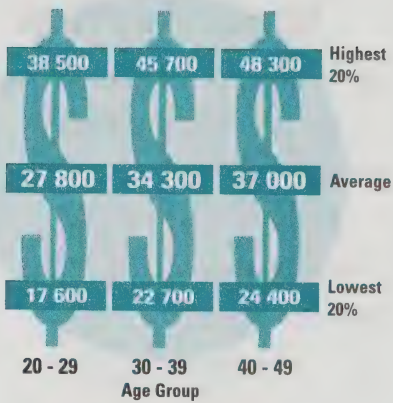
In These Occupations...

- 48,000 people were employed in 1998, a decrease of 0.2% from 1988. However, after declining 12.9% over the 1988 to 1993 period, employment increased 14.5% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 31% are sawmill machine operators and the rest work in a variety of occupations in pulp and paper processing and wood processing.
- 2% work part-time, well below the average of 19% for all occupations.
- 3% are self-employed, well below the average of 17% for all occupations.
- 10% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 6.8% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for occupations with similar education/training requirements and are comparable to those for other occupations in the processing, manufacturing and utilities sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average, although earnings are above the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Increasing use of computerized equipment could improve prospects for new entrants with appropriate education or experience.

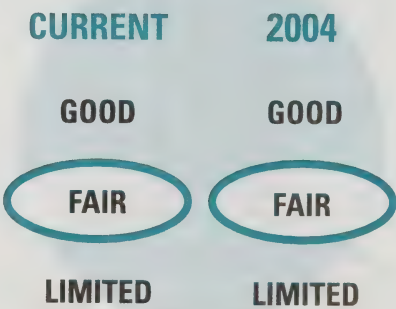
Earnings



Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



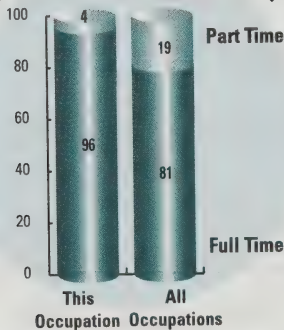
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Machine Operators and Related Workers in Textile Processing

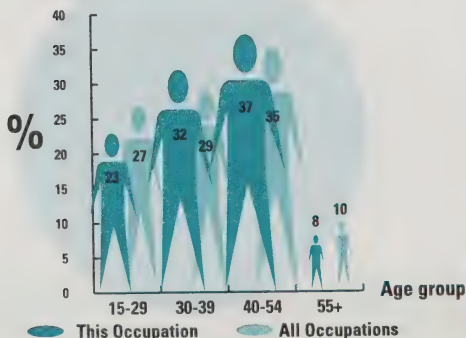
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in textile manufacturing companies and garment, mattress and other fabric products manufacturing companies. Their job duties may require them to operate specialized machinery.

- Textile fibre and yarn preparation machine operators prepare textile fibres and spin, wind, reel and twist yarn and thread.
- Weavers operate looms to weave yarn and thread into textile fabrics and products.
- Other weaving workers reproduce patterns, perform drawing-in and warp tying activities and set up looms.
- Knitting machine operators produce knitted fabric, hosiery, garments and other products.
- Textile dyeing and finishing machine operators bleach, dye and finish yarn, thread, cloth and textile products.
- Textile inspectors, graders and samplers prepare samples and inspect and grade textile products.

This occupational group also includes card tenders, wool scourers, textile printing operators and perch operators.

Education, Training & Experience

- People in this group may need some high school or a high school diploma, or college education. Many recent entrants have a high school diploma.
- They may receive on-the-job training; its length depends on the complexity of the product or process, the number of machines they will operate and whether they will perform equipment set-up and maintenance.
- Weavers, knitters and other workers in fabric-making occupations may require experience as labourers in their company.
- Textile inspectors, graders and samplers who inspect valuable and complex products may require experience as weavers, knitters or other fabric-making operators.

Check out the 'big picture' in
"World of Work: Overviews and Trends"

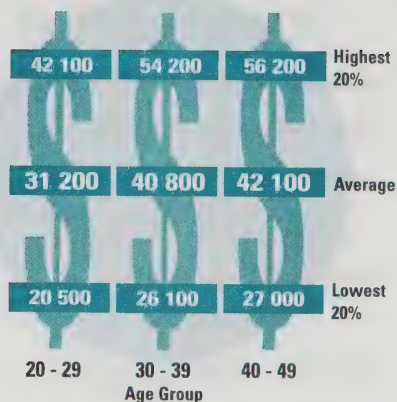
In These Occupations...

- 23,000 people were employed in 1998, a decrease of 14.6% from 1988. However, after declining 21.0% over the 1988 to 1993 period, employment increased 8.1% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 38% are weavers, knitters and other fabric-making operators; 24% are textile fibre and yarn preparation machine operators; and 21% are textile dyeing and finishing machine operators.
- 4% work part-time, well below the average of 19% for all occupations.
- 4% are self-employed, well below the average of 17% for all occupations.
- 42% are women, compared to an average of 45% for all occupations. The proportion of women employed in these occupations has decreased significantly in the past ten years.
- the unemployment rate averaged 7.9% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for occupations with similar education/training requirements and for occupations in the processing, manufacturing and utilities sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of past employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers, due to an expected rise in retirements.
- Increasing use of robotics and computerized manufacturing technologies will require new entrants to have higher literacy and numeracy skills than in the past.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the textiles manufacturing industry.

Earnings



Overall Average for All Ages (15+)

28 100	37 400
This Occupation	All Occupations

Work Prospects

CURRENT 2004

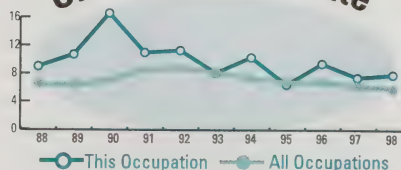
GOOD GOOD

FAIR FAIR

LIMITED

LIMITED

Unemployment Rate



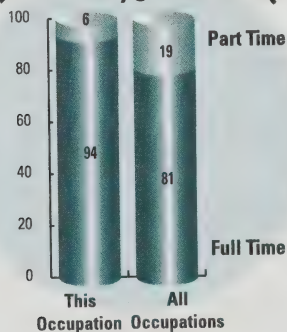
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Machine Operators and Related Workers in Fabric, Fur and Leather Products Manufacturing

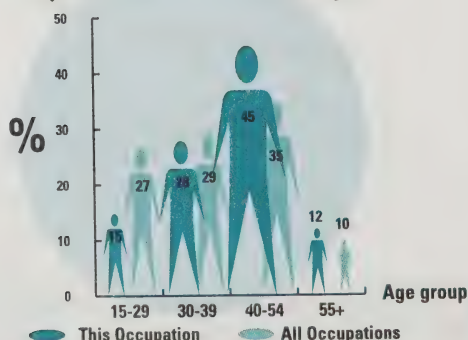
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work for furriers; manufacturers of clothing, footwear, textile and fur products; and companies that provide services such as leather tanning, fur dressing, and leather and fur dyeing.

- Sewing machine operators sew fabric, fur and synthetic materials to produce and repair garments and other articles. They also operate tackers, buttonhole makers, hemmers and other machines.
- Fabric cutters cut fabric to make parts for garments and other articles. They frequently use computerized cutting devices.
- Fur cutters cut pelts to make parts for garments and other articles.
- Leather cutters make parts for shoes, garments and other articles.
- Hide and pelt processing workers trim, scrape, clean, tan, buff and dye animal hides, pelts and skins to produce leather stock and finished furs.
- Inspectors and testers in fabric, fur and leather products manufacturing inspect and grade hides, pelts, leather, and garments and other manufactured fabric, fur and leather products.

Education, Training & Experience

- People in this group usually need some high school education or a high school diploma. Most recent entrants have not completed high school or have a high school diploma.
- They usually require experience in the manufacturing of products.

Check out the 'big picture' in
"World of Work: Overviews and Trends"

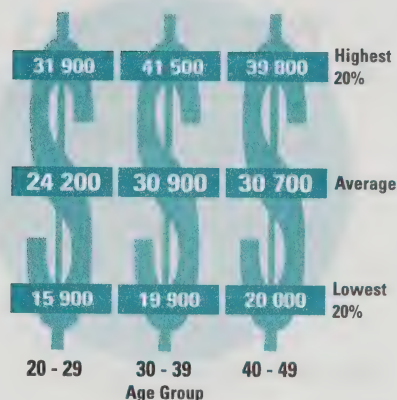
In These Occupations...

- 79,000 people were employed in 1998, a decrease of 19.9% from 1988. However, after declining 28.0% over the 1988 to 1993 period, employment increased 11.3% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 84% are sewing machine operators and 9% are fur, fabric and leather cutters.
- 6% work part-time, well below the average of 19% for all occupations.
- 8% are self-employed, compared to an average of 17% for all occupations.
- 83% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 9.9% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for occupations with similar education/training requirements and for occupations in the processing, manufacturing and utilities sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of large, long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.

Earnings



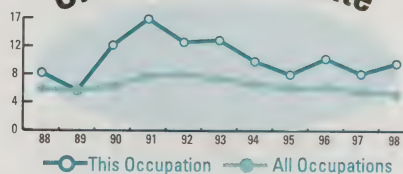
Overall Average for All Ages (15+)

22 700	37 400
This Occupation	All Occupations

Work Prospects

CURRENT	2004
GOOD	GOOD
FAIR	FAIR
LIMITED	LIMITED

Unemployment Rate



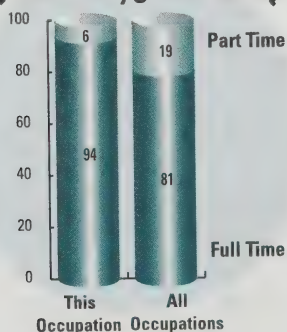
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Machine Operators and Related Workers in Food, Beverage and Tobacco Processing

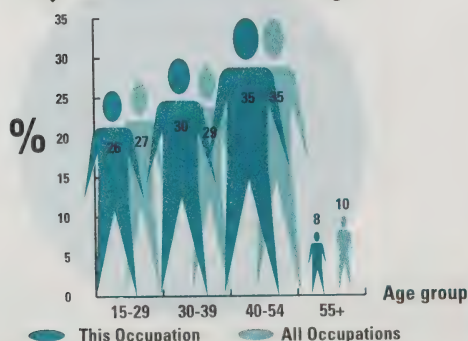
Where They Work



Type of Employment



Distribution by Age



At Work

People in this group work in fruit and vegetable processing plants; dairies; flour mills; bakeries; sugar refineries; breweries; distilleries; meat and poultry slaughtering, processing and packing companies; fish and tobacco processing plants; and other organizations.

- Process control and machine operators use multi-function or single-function machines to process and package food and beverage products.
- Industrial butchers slaughter livestock and split carcasses into smaller portions. They may slaughter livestock according to religious laws.
- Industrial meat cutters cut carcasses for further cutting or processing, and cut meat and poultry into specific cuts for wholesale use.
- Fish plant machine operators process and package fish products.
- Fish plant cutters and cleaners cut, trim and clean fish by hand.
- Tobacco processing machine operators prepare and treat tobacco leaves and produce tobacco products.
- Testers and graders working in food and beverage processing test and grade ingredients and finished food, beverage and tobacco products.

Education, Training & Experience

- People in this group may require some high school education or a high school diploma. Many recent entrants have a high school diploma.
- They may require experience in their particular industry or occupation.
- They usually receive on-the-job training.
- Industrial meat cutters must complete an industrial meat cutting program or have experience as industrial butchers or trimmers.

Check out the 'big picture' in
"World of Work: Overviews and Trends"

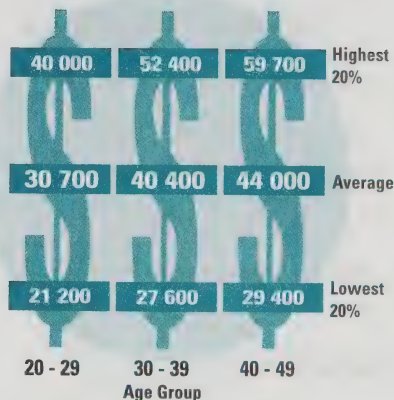
In These Occupations...

- 63,000 people were employed in 1998, a decrease of 3.1% from 1988. However, after declining 13.6% over the 1988 to 1993 period, employment increased 12.2% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 44% are process control and machine operators in food and beverage processing and 29% are industrial butchers and meat cutters.
- 6% work part-time, well below the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 36% are women, compared to an average of 45% for all occupations.
- the unemployment rate averaged 11.4% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations with similar education/training requirements and for occupations in the processing, manufacturing and utilities sectors.
- the average earnings are among the lowest for occupations with similar education/training requirements and for occupations in the processing, manufacturing and utilities sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities and earnings are both well below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- The growing use of computerized machinery means that these operators will need to be knowledgeable in a variety of specialized computer applications.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the food processing industry.

Earnings



Overall Average for All Ages (15+)

29 400	37 400
This Occupation	All Occupations

Work Prospects

CURRENT 2004

GOOD GOOD

FAIR FAIR

LIMITED

LIMITED

Unemployment Rate



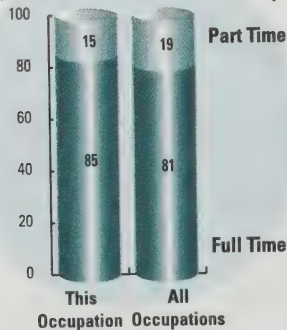
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Printing Machine Operators and Related Occupations

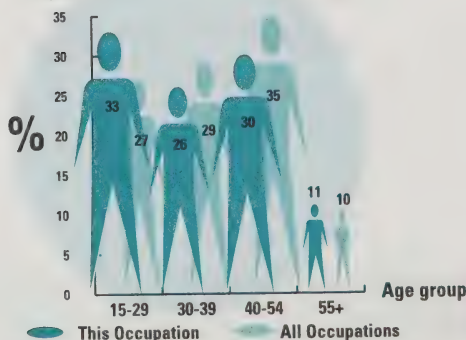
Where They Work



Type of Employment



Distribution by Age



At Work

These people work for rapid printing services, commercial printing companies and in-house binding and finishing departments; colour graphics, platemaking and cylinder preparation firms; newspapers; magazines; film processing and retail photofinishing organizations; and government.

- Printing machine operators use laser printers, computerized high-speed colour copiers and other printing machines to print text, illustrations and designs.
- Printing press operators print illustrations, designs and text on paper, plastic and other material. They may supervise crews of large presses,
- Camera and platemaking workers operate cameras and scanners, assemble film and negatives, and prepare, engrave and etch printing press plates and cylinders.

This occupational group also includes photographic and film processors, cylinder preparers, film assemblers/strippers, platemakers, pre-press technicians, scanner operators, and binding and finishing machine operators.

Education, Training & Experience

- People in this group usually must have a high school diploma. Some receive on-the-job training. Many recent entrants have a high school diploma.
- Printing machine operators may require college or other printing courses.
- Printing press operators usually require a college printing technology diploma, or an apprenticeship, or a combination of on-the-job training and specialized courses.
- Camera, platemaking and other workers in pre-press occupations and binding and finishing machine operators require a college program in graphic arts technology, or an apprenticeship, or a combination of on-the-job training and specialized courses.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

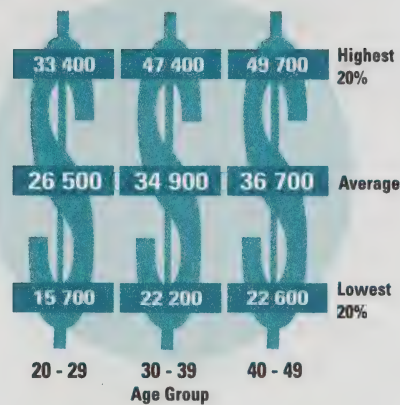
In These Occupations...

- 27,000 people were employed in 1998, a decrease of 13.4% from 1988. However, after declining 19.1% over the 1988 to 1993 period, employment increased 7.0% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 33% are printing press and printing machine operators; 26% are binding and finishing machine operators; and 25% are photographic and film processors.
- 15% work part-time, compared to an average of 19% for all occupations. The proportion of part-time workers in these occupations has increased significantly over the last ten years.
- 6% are self-employed, well below the average of 17% for all occupations.
- 48% are women, compared to an average of 45% for all occupations.
- the unemployment rate averaged 7.2% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other occupations with similar education/training requirements and for other occupations in the processing, manufacturing and utilities sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited" as a result of large long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Traditional pre-press occupations are being affected by rapid technological change. These jobs are increasingly being done electronically, blurring the distinctions among the various pre-press occupations.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the printing and publishing industry.

Earnings



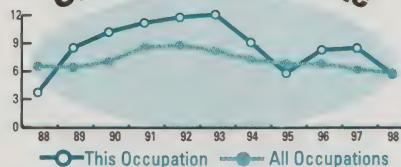
Overall Average for All Ages (15+)

This Occupation	All Occupations
32 500	37 400

Work Prospects



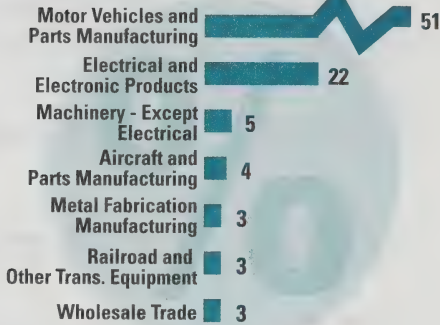
Unemployment Rate



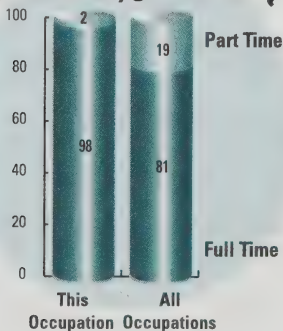
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Mechanical, Electrical and Electronics Assemblers

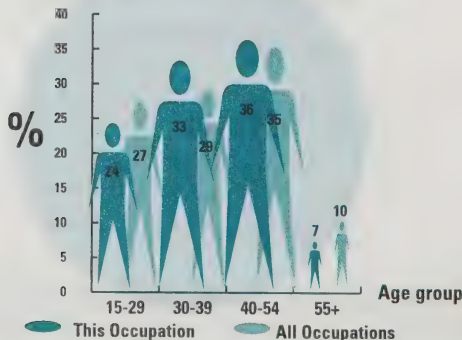
Where They Work



Type of Employment



Distribution by Age



At Work

These people work for manufacturers of aircraft and aircraft subassemblies, motor vehicles, electronics, electrical appliances and electrical equipment, machinery and transportation equipment, industrial electric motors, transformers, control equipment, railway locomotives, transit vehicles and other heavy electrical equipment.

- Aircraft assemblers work with prefabricated parts to manufacture aircraft subassemblies and aircraft.
- Motor vehicle assemblers work with motor vehicle parts to produce subassemblies and finished motor vehicles.
- Assemblers of electrical appliances, apparatus and equipment work with prefabricated parts to produce household, commercial and industrial appliances and equipment.
- Assemblers and fabricators of industrial electrical motors and transformers produce heavy-duty industrial electrical equipment.
- Mechanical assemblers produce a wide variety of mechanical products such as trucks, buses and automotive engines.
- Operators of electrical apparatus manufacturing machinery or equipment produce electrical parts and products.
- Inspectors and testers inspect and test products for conformity to standards and specifications.

Education, Training & Experience

- People in this group usually need some high school or a high school diploma. Many recent entrants have a high school diploma.
- Aircraft assemblers and inspectors may require aviation or aeronautical technology programs emphasizing aircraft manufacturing.
- Inspectors and testers usually require experience as assemblers or other workers in their companies or industries.

In These Occupations...

- 148,000 people were employed in 1998, an increase of 17.9% from 1988. After declining 20.0% over the 1988 to 1993 period, employment increased 47.5% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.

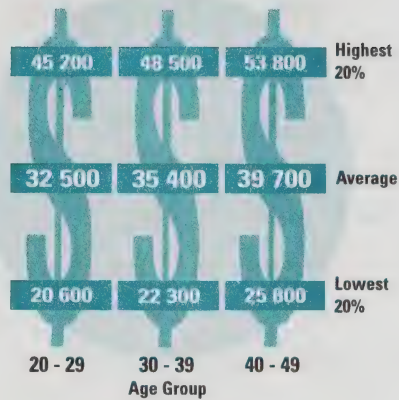
*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

- 48% are motor vehicle assemblers, inspectors and testers; 19% are electronics assemblers, fabricators and inspectors; and 14% are mechanical assemblers and inspectors.
- 2% work part-time, well below the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 33% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 6.2% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for occupations with similar education/training requirements and are comparable to those for other occupations in the processing, manufacturing and utilities sectors.

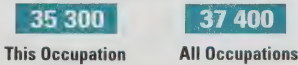
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average, although earnings are above the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Increasingly sophisticated manufacturing processes in the automotive, aircraft and electronics manufacturing industries are likely to require considerable skill upgrading among assemblers, fabricators, inspectors and testers in these industries.
- Globalization of manufacturing in the industries which employ these workers will mean that jobs will go to the countries with either the most advanced technologies or the lowest pay levels. To remain competitive, Canadian workers will need to be highly skilled in the use of advanced manufacturing technologies.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the electrical and electronic products industry.

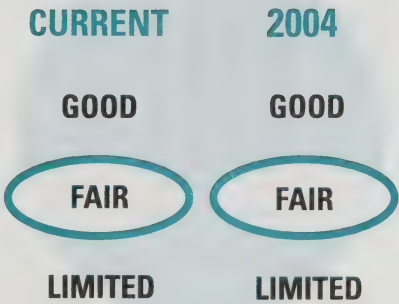
Earnings



Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Motor Vehicle Assemblers, Inspectors and Testers

Where They Work



At Work

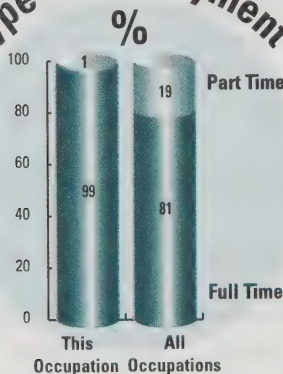
People in this occupation work in plants that manufacture automobiles, vans and light trucks.

- Motor vehicle assemblers put together and install prefabricated motor vehicle parts and components to form subassemblies and finished motor vehicles. They may use hand and power tools and equipment, and automated assembling equipment such as robotic and fixed automation equipment.
- Motor vehicle inspectors and testers inspect and test parts, subassemblies and finished products to ensure that they perform properly and conform to quality standards. They may use testing devices such as meters, analyzers and timing lights, and drive and test motor vehicles on roll testing devices to make sure that vehicles function properly.

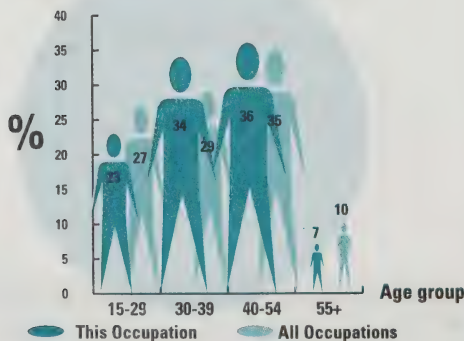
Education, Training & Experience

- People in this occupation usually need a high school diploma. Many recent entrants have a high school diploma.
- They normally gain the skills required for their occupation through on-the-job training.
- They may have job mobility within the same production department.
- With experience, they may progress to supervisory positions.

Type of Employment



Distribution by Age



*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

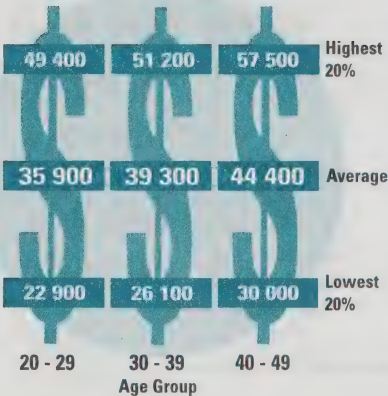
In These Occupations...

- 70,000 people were employed in 1998, an increase of 42.1% from 1988. After declining 5.0% over the 1988 to 1993 period, employment increased 49.6% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 1% work part-time, well below the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 29% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 5.5% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for occupations with similar education/training requirements and for occupations in the processing, manufacturing and utilities sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities are above average and earnings are well above the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Labour market conditions may be better for those who can demonstrate an aptitude for working with high-technology applications in assembly as the use of robotics and computer-controlled equipment continues to grow in the motor vehicle industry.
- Globalization of automotive manufacturing operations will mean that plants in Canada will compete increasingly with those in the U.S. and overseas for work.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the motor vehicle industry.

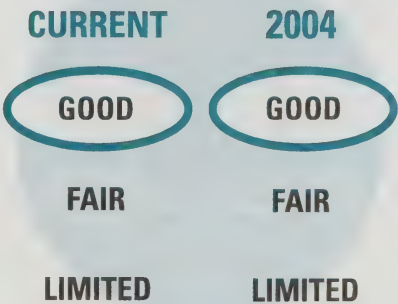
Earnings



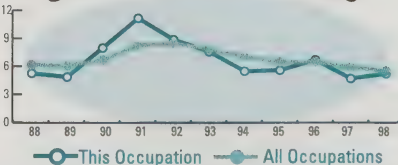
Overall Average for All Ages (15+)

This Occupation	All Occupations
\$39,100	\$37,400

Work Prospects



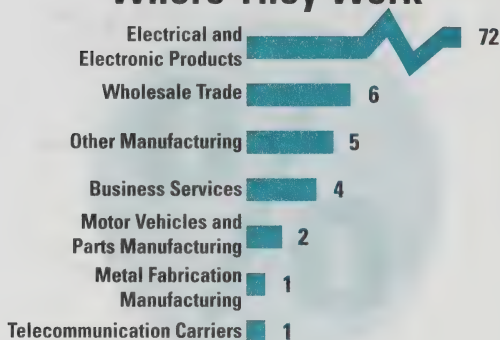
Unemployment Rate



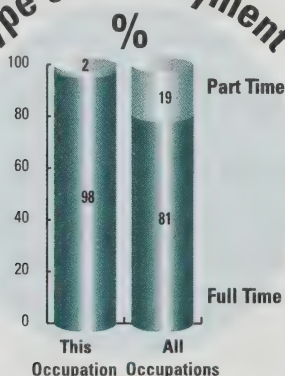
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Electronics Assemblers, Fabricators, Inspectors and Testers

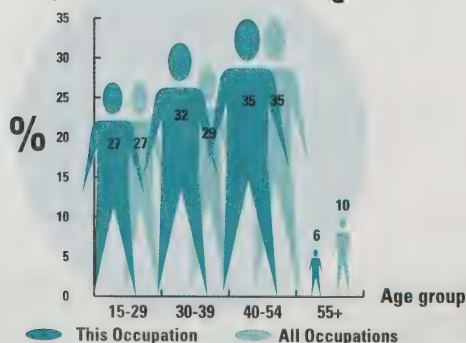
Where They Work



Type of Employment



Distribution by Age



At Work

People in this occupation work in electronics manufacturing plants and in a wide variety of other manufacturing industries.

- Electronics assemblers solder and manually assemble electronic components such as resistors, diodes, transistors, capacitors and integrated circuits to designated locations on printed circuit boards. They perform fine hand assembly using microscopes, hand and small power tools and automatic and semi-automatic machines.
- Electronics fabricators operate and monitor process equipment including automatic and semi-automatic machines to fabricate electronic components and solder, clean, seal and stamp components.
- Electronics inspectors check assembled and fabricated electronic components and assemblies to make sure they conform to specified requirements. They inspect final assemblies for finish, labelling and packaging and perform go - no go electrical tests to check mechanical dimensions.
- Electronics testers operate test equipment and tools to perform simple electrical and continuity testing of electronic components, parts and systems. They compare test results to specifications, and identify parts and products for repair and replacement.

Education, Training & Experience

- People in this occupation usually must complete some high school. Most recent entrants have a high school or community college diploma.
- Electronics testers may require specialized training after high school in basic electronic theory, testing techniques and testing equipment.
- Electronics inspectors may need experience as electronics assemblers or component fabricators.
- With additional training and experience, electronics assemblers and component fabricators may progress to electronics inspector and tester positions.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

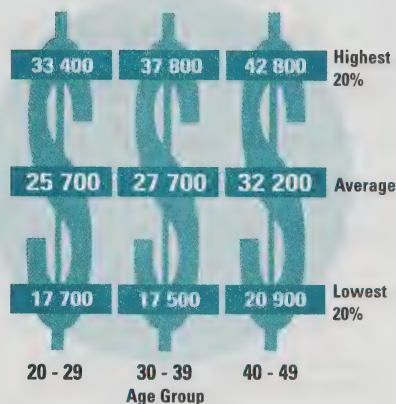
In These Occupations...

- 29,000 people were employed in 1998, an increase of 28.6% from 1988. After declining 17.3% over the 1988 to 1993 period, employment increased 55.4% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 2% work part-time, well below the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 58% are women, well above the average of 45% for all occupations.
- the unemployment rate averaged 5.5% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the lowest for occupations with similar education/training requirements and for occupations in the processing, manufacturing and utilities sectors.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities and earnings are both at average levels.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Demand from employers will continue to grow, given increasing consumer demand for computers and other electronic equipment. However, the domestic economy has failed to capture many assembly-line jobs created by the explosion of computer use, and most electronic products are assembled overseas.
- Almost all of the increase in employment requirements through 2004 for this occupation is expected to occur in the electrical and electronic products industry.

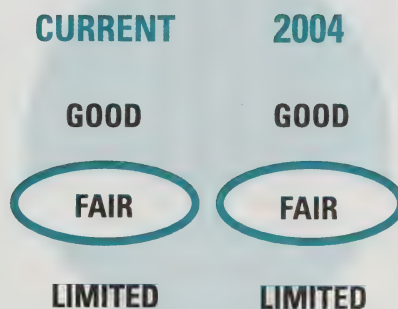
Earnings



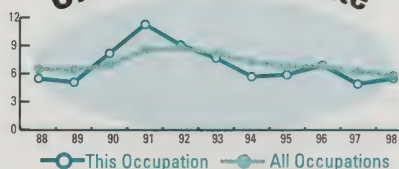
Overall Average for All Ages (15+)

28 400	37 400
This Occupation	All Occupations

Work Prospects



Unemployment Rate



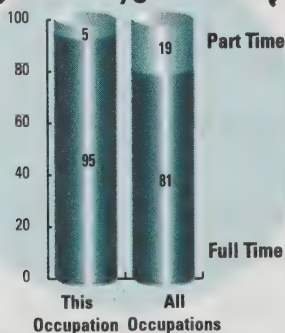
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Other Assembly and Related Occupations

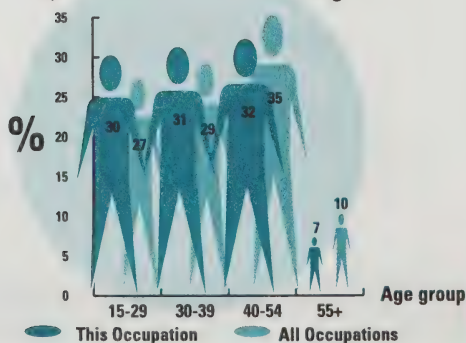
Where They Work



Type of Employment %



Distribution by Age



At Work

People in this group work in marine craft, furniture, and wood, plastic and metal products manufacturing companies, and furniture refinishing and customized metal plating and coating shops.

- Boat assemblers put together wooden, fibreglass and metal boats.
- Furniture and fixture assemblers put parts together to form subassemblies and completed furniture and fixtures.
- Wood products assemblers put together a variety of wood products.
- Furniture finishers finish new wood or metal furniture to specified colour and finish.
- Painters and coaters in manufacturing use machines, brushes and spray equipment to apply paint and other non-metallic coatings.
- Plating, metal spraying and related operators run machines and equipment to apply metallized substances to metal and other objects.
- Assembly inspectors inspect subassemblies and finished products to ensure product quality.
- Other assemblers put together a variety of products such as jewellery, clocks, musical instruments and toys.

Education, Training & Experience

- People in this group usually require secondary school education. Many recent entrants have a high school diploma or a trade/vocational certificate.
- They usually receive on-the-job training.
- Apprenticeship is available for some occupations.
- Furniture finishers and some industrial painters such as aircraft painters may require college courses or specialized training.
- Plating and metal spraying operators may need experience in operating production machinery.
- Assemblers, finishers and inspectors may need experience as labourers, helpers or assemblers.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

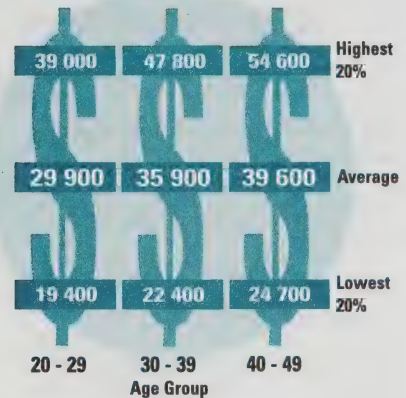
In These Occupations...

- 92,000 people were employed in 1998, an increase of 5.5% from 1988. After declining 16.9% over the 1988 to 1993 period, employment increased 26.9% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 20% are painters and coaters in manufacturing and 19% are furniture and fixture assemblers and inspectors.
- 5% work part-time, well below the average of 19% for all occupations.
- 8% are self-employed, compared to an average of 17% for all occupations.
- 26% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 9.3% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are comparable to those for other occupations with similar education/training requirements and for other occupations in the processing, manufacturing and utilities sectors.
- employment changes tend to mirror movements in overall economic activity.

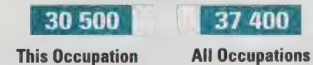
National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average and earnings are at the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Use of new manufacturing technologies in the furniture sector will require new entrants to this sector to have the basic skills needed to call up computer programs, read and interpret printouts and adjust production machinery accordingly.
- Employment requirements for these occupations are expected to increase across a broad range of industries through 2004.

Earnings



Overall Average for All Ages (15+)



Work Prospects

CURRENT

2004

GOOD

GOOD

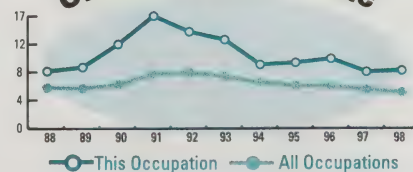
FAIR

FAIR

LIMITED

LIMITED

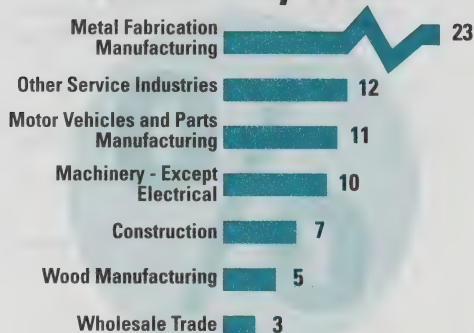
Unemployment Rate



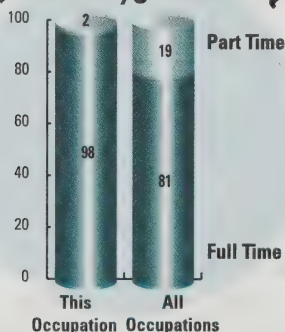
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Machining, Metalworking, Woodworking and Related Machine Operators

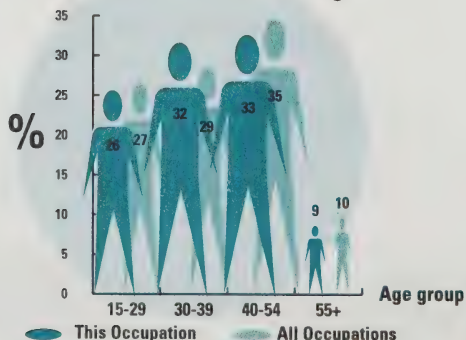
Where They Work



Type of Employment



Distribution by Age



At Work

These machine operators work for heavy machinery, transportation equipment, aircraft and ship building industries; sheet metal and machine shops; manufacturers of furniture, fixtures and other wood products; light metal and structural steel fabrication plants; and manufacturers of boilers and platework.

- Machining tool operators turn, mill, drill, bore, plane, hone, broach and grind to produce machined parts. They may etch or chemically mill metal pieces.
- Forging machine operators form metal into shapes and impart hardness, strength and other characteristics.
- Woodworking machine operators fabricate and repair parts for wood products.
- Light metalworking machine operators shape and form sheet and light metal into parts and products.
- Heavy metalworking machine operators shape and form steel or other heavy metal into parts or products.
- Welding machine operators fabricate and repair metal parts using spot, butt and seam resistance machines or gas and arc welding machines.
- Brazing and soldering machine operators bond metal parts and fill holes, indentations and seams in metal articles with solder.
- Other metal products machine operators run machines such as wire looms to produce metal parts and products such as fencing, nails and chains.

Education, Training & Experience

- These machine operators usually require secondary school education. Most recent entrants have a high school diploma or a trade/vocational certificate.
- They usually receive on-the-job training.
- They may need experience as labourers or helpers in their company.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

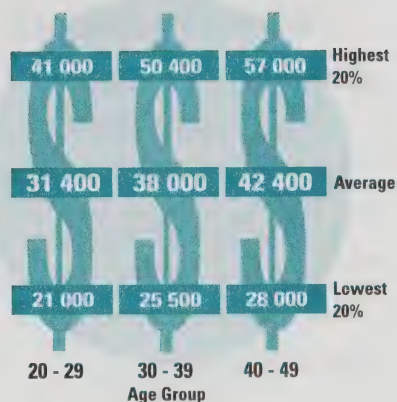
In These Occupations...

- 113,000 people were employed in 1998, an increase of 2.5% from 1988. After declining 18.3% over the 1988 to 1993 period, employment increased 25.5% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 60% are welders and soldering machine operators; 11% are metalworking machine operators; and 11% are machining tool operators.
- 2% work part-time, well below the average of 19% for all occupations.
- 5% are self-employed, well below the average of 17% for all occupations.
- 11% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 8.2% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for occupations with similar education/training requirements but are comparable to those for other occupations in the processing, manufacturing and utilities sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Fair", since employment opportunities are average, although earnings are above the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Those with the ability to work with high-technology applications in these occupations may have better opportunities.
- Most of the increase in employment requirements through 2004 for these occupations is expected to occur in the non-electrical machinery, metal fabrication and construction industries.

Earnings



Overall Average for All Ages (15+)

36,300	37,400
This Occupation	All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

FAIR

FAIR

LIMITED

LIMITED

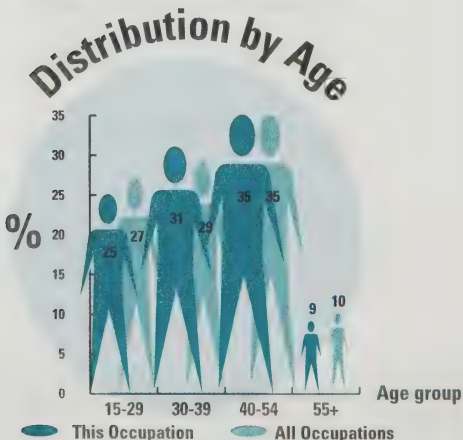
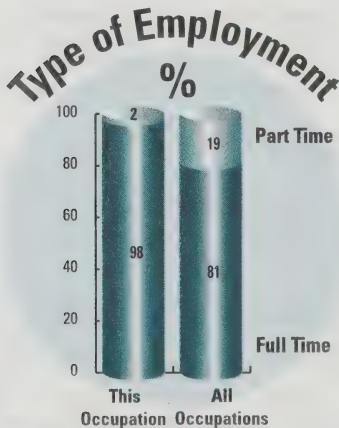
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Welders and Soldering Machine Operators

Where They Work



At Work

People in this occupation work in companies that manufacture structural steel and platework, boilers, heavy machinery, aircraft, ships, and transportation and other metal products. Welders are also employed by welding contractors, welding shops and other industrial sectors.

- Welders operate manual and semi-automatic welding equipment to weld ferrous and non-ferrous metals following blueprints and welding process specifications. They may specialize in certain types of welding such as ship building, aerospace precision welding and pipeline construction welding.
- Welding machine operators use previously set up welding machines such as spot, butt and seam resistance or gas and arc welding machines to fabricate and repair metal parts.
- Brazing and soldering machine operators use previously set up brazing and soldering machines to bond metal parts and to fill holes, indentations and seams in metal articles with solder.

Education, Training & Experience

- People in this occupation usually require secondary school education. Many recent entrants have a trade/vocational certificate.
- To gain trade certification, welders usually must complete a three-year apprenticeship program or have a combination of over three years' experience and some college or industry courses in welding.
- Trade certification for welders is compulsory in Alberta. It is available, but voluntary, in Nova Scotia, Newfoundland, Prince Edward Island, New Brunswick, Manitoba, Saskatchewan, British Columbia, the Northwest Territories and the Yukon. Qualified welders may also obtain interprovincial (Red Seal) trade certification which provides job mobility throughout the country.
- Welding, brazing and soldering machine operators usually require several months' on-the-job training and may require experience as machine operator helpers.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

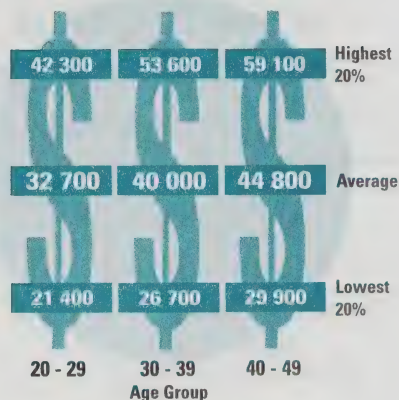
In These Occupations...

- 68,000 people were employed in 1998, a decrease of 4.5% from 1988. However, after declining 26.3% over the 1988 to 1993 period, employment increased 29.7% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 2% work part-time, well below the average of 19% for all occupations.
- 6% are self-employed, well below the average of 17% for all occupations.
- 4% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 9.6% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for occupations with similar education/training requirements but are comparable to those for other occupations in the processing, manufacturing and utilities sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Limited" as a result of long-term employment losses.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Those with the ability to work with high-technology applications in this occupation may have better opportunities.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the non-electrical machinery, construction and metal fabricating industries.

Earnings



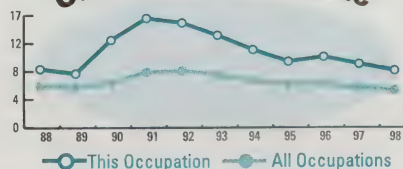
Overall Average for All Ages (15+)

38 200	37 400
This Occupation	All Occupations

Work Prospects

CURRENT	2004
GOOD	GOOD
FAIR	FAIR
LIMITED	LIMITED

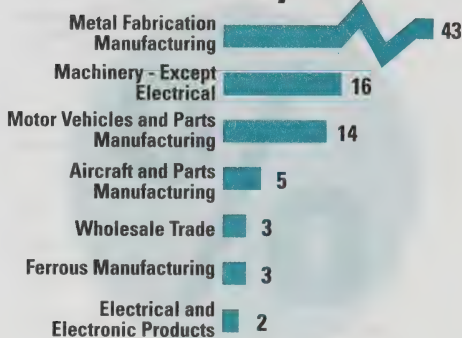
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Machining Tool Operators

Where They Work



At Work

Machining tool operators work for machine shops and metal products and other manufacturing companies. Their duties may require them to:

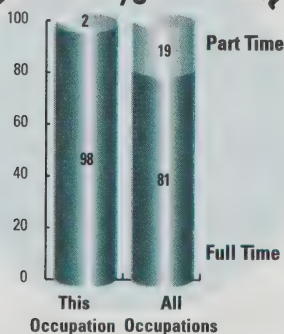
- interpret job orders and blueprints to determine machining operations;
- set up and operate machines to perform operations such as turning, milling, drilling, boring, planing, honing, broaching and grinding;
- verify dimensions of machined parts using precision measuring instruments; and
- prepare an etching solution and immerse metal parts or work pieces in the solution to remove unwanted portions.

This occupation includes milling machine set-up operators, production gear cutters, and operators of lathe machines, boring mills, radial drills and numerical control machines. It also includes workers who etch or chemically mill metal pieces.

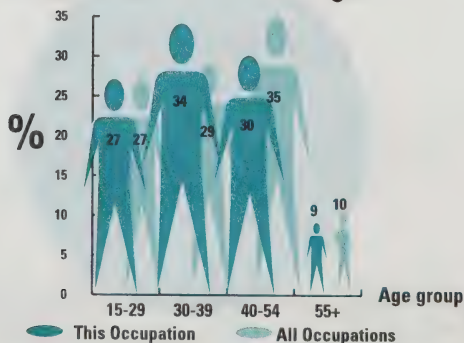
Education, Training & Experience

- Machining tool operators must complete some high school education. Many recent entrants have a trade/vocational certificate or a community college diploma.
- They may require college or other courses in machining.
- They usually receive several months' on-the-job training.
- Senior positions, such as set-up operator, require that workers have experience as machine operators.
- Experienced operators may become machinists through apprenticeship training.

Type of Employment



Distribution by Age



*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

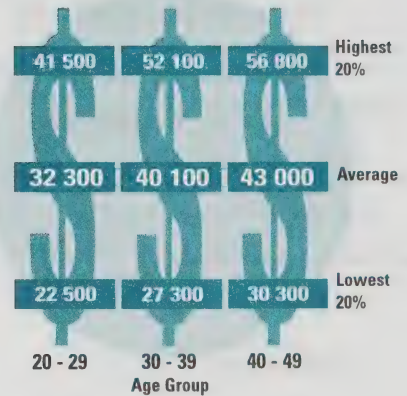
In These Occupations...

- 12,000 people were employed in 1998, an increase of 4.3% from 1988. After declining 15.2% over the 1988 to 1993 period, employment increased 22.9% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 2% work part-time, well below the average of 19% for all occupations.
- 2% are self-employed, well below the average of 17% for all occupations.
- 14% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 4.7% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the lowest for occupations with similar education/training requirements and for occupations in the processing, manufacturing and utilities sectors.
- the average earnings are among the highest for occupations with similar education/training requirements but are comparable to those for other occupations in the processing, manufacturing and utilities sectors.
- employment changes tend to mirror movements in overall economic activity.

National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Good", since employment opportunities and earnings are both above the average levels for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Those with the ability to work with high-technology applications in this occupation - in particular, numerically controlled machines linked to computers - may have better opportunities.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the non-electrical machinery and metal fabricating industries.

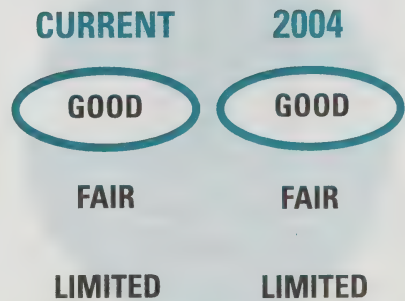
Earnings



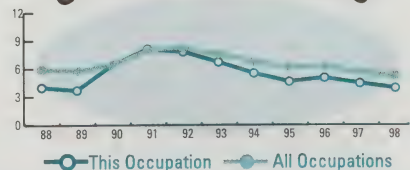
Overall Average for All Ages (15+)

37 400	37 400
This Occupation	All Occupations

Work Prospects



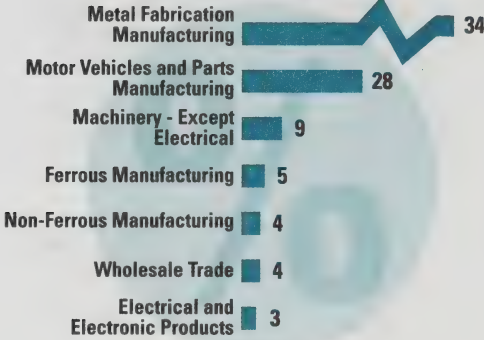
Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Metalworking Machine Operators

Where They Work

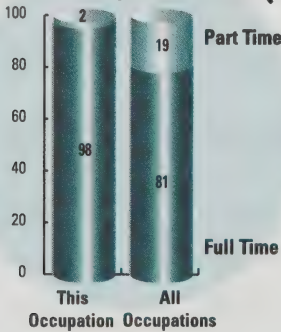


At Work

Light metalworking machine operators work for sheet metal products manufacturing companies, sheet metal shops and other light metal products manufacturing organizations. Heavy metalworking machine operators are employed by structural steel fabrication, boiler and platework manufacturing companies, and by heavy machinery companies. Their duties may require them to:

- read specifications or follow oral instructions;
- set up and operate metalworking machines to cut, bend, roll, ream, punch and drill or otherwise shape and form metal stock into parts and products;
- operate machines that weld, solder, bolt, screw and rivet metal parts together;
- check products for correct shapes, dimensions and other specifications;
- select and transport material manually or using cranes or hoists; and
- clean and lubricate equipment and replace parts as required.

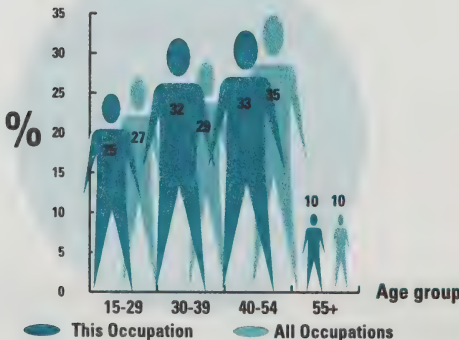
Type of Employment



Education, Training & Experience

- Metalworking machine operators must complete some high school education. Most recent entrants have a high school diploma or a trade/vocational certificate.
- They usually receive on-the-job training.
- They may require previous experience as labourers or helpers in the same company.
- With experience, they may progress to positions such as structural metal fabricator or supervisory positions.

Distribution by Age



Check out the 'big picture' in
"World of Work: Overviews and Trends"

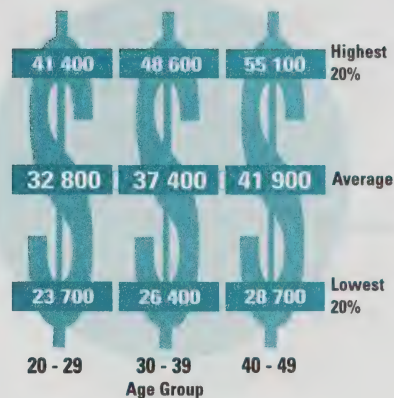
In These Occupations...

- 12,000 people were employed in 1998, an increase of 8.5% from 1988. After declining 4.8% over the 1988 to 1993 period, employment increased 14.0% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 2% work part-time, well below the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 21% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 7.1% from 1996 to 1998, compared to the national average of 6.0%.
- the average earnings are among the highest for occupations with similar education/training requirements but are comparable to those for other occupations in the processing, manufacturing and utilities sectors.
- employment changes tend to mirror movements in overall economic activity.

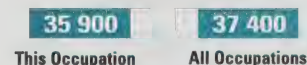
National Outlook to 2004

- Currently, chances of finding work in this occupation are rated "Fair", since employment opportunities are average, although earnings are above the average level for comparable occupations.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Those with the ability to work with high technology applications in this occupation may have better opportunities.
- Most of the increase in employment requirements through 2004 for this occupation is expected to occur in the non-electrical machinery and metal fabricating industries.

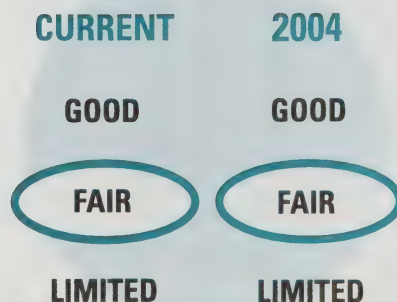
Earnings



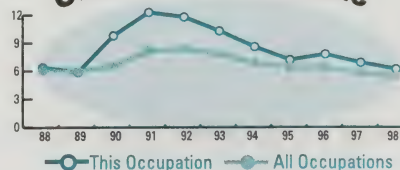
Overall Average for All Ages (15+)



Work Prospects



Unemployment Rate



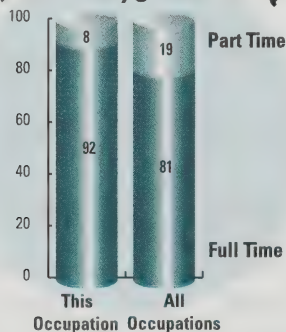
Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Labourers in Processing, Manufacturing and Utilities

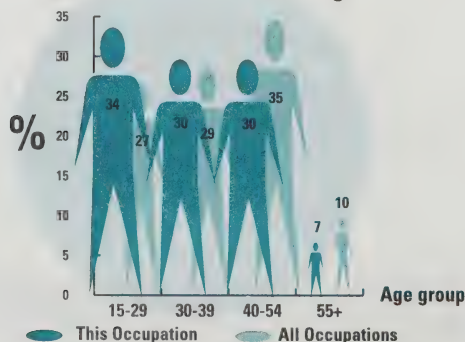
Where They Work



Type of Employment



Distribution by Age



At Work

These labourers work for a wide variety of manufacturing and processing companies such as those involved in copper, lead and zinc refining; uranium processing; clay, glass and stone processing; heavy machinery manufacturing; textiles, rubber and plastic products manufacturing; petroleum and natural gas processing; pulp and paper processing; food, beverage, tobacco and fish processing; clothing, footwear and furniture manufacturing; electrical and electronic products manufacturing; and printing and packaging. Their duties may require them to:

- transport raw materials;
- load, unload, sort, check and weigh raw materials and products;
- feed machines such as conveyers, crushers, saws and processing machines;
- clean work areas and equipment; and
- assist more skilled workers.

Education, Training & Experience

- Labourers may require some high school education. Many recent entrants have a high school diploma.
- Labourers in wood, pulp and paper processing working in the pulp and paper industry and for other large employers must have a high school diploma.
- With experience, most labourers may progress to machine operating positions or other more skilled jobs within their area of work.

*Check out the 'big picture' in
"World of Work: Overviews and Trends"*

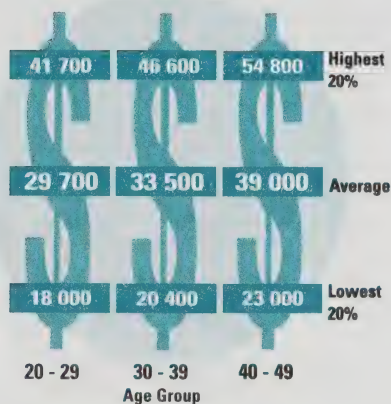
In These Occupations...

- 242,000 people were employed in 1998, an increase of 8.1% from 1988. After declining 7.2% over the 1988 to 1993 period, employment increased 16.5% between 1993 and 1998. In comparison, employment in all occupations grew 12.3% over the same ten years, and 8.2% over the last five.
- 23% work in food, beverage and tobacco processing and 16% work in wood, pulp and paper processing.
- 9% work part-time, well below the average of 19% for all occupations.
- 1% are self-employed, well below the average of 17% for all occupations.
- 34% are women, well below the average of 45% for all occupations.
- the unemployment rate averaged 12.1% from 1996 to 1998, compared to the national average of 6.0%. This rate is among the highest for occupations in the processing, manufacturing and utilities sectors.
- the average earnings are comparable to those for other occupations with similar education/training requirements but are among the lowest for occupations in the processing, manufacturing and utilities sectors.

National Outlook to 2004

- Currently, chances of finding work in these occupations are rated "Limited", since employment opportunities and earnings are both well below average.
- Over the next five years, this outlook is not expected to change, as the number of job openings is expected to be matched by the number of qualified job seekers.
- Employment requirements for these occupations are expected to increase across a broad range of industries through 2004.

Earnings



Overall Average for All Ages (15+)

27 200

37 400

This Occupation

All Occupations

Work Prospects

CURRENT

2004

GOOD

GOOD

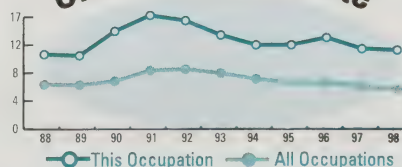
FAIR

FAIR

LIMITED

LIMITED

Unemployment Rate



Refer to "Understanding the Occupational Profiles" for a detailed explanation of each section above and how to use it, as well as underlying methodologies and data sources.

Job Futures 2000

Appendices

Job Futures - Glossary of Terms

Term	Definition
Accreditation	<ul style="list-style-type: none"> process that an agency or an association uses to grant public recognition to a training institution, program of study, individual or service that meets pre-set standards.
Applied Research Branch (ARB)	<ul style="list-style-type: none"> a branch within Human Resources Development Canada which studies various characteristics of Canadians to help determine policy, or changes to policy, that may be implemented by the Government of Canada depending on the results of the research. Research areas include the workplace, child welfare, employment insurance, aging, labour market conditions, occupational projections, etc. ARB also publishes the <i>ARB Bulletin</i>, <i>Job Futures</i> and various other research papers.
ARB	<ul style="list-style-type: none"> see Applied Research Branch
Average Annual Rate	<ul style="list-style-type: none"> in <i>Job Futures</i>, this phrase describes the growth in employment or the number of graduates, averaged over a five- or ten-year period, e.g., from 1990 to 1995 the number of graduates increased by 10%, or at an average annual rate of 2% per year. The average annual rate reports the growth as being evenly distributed over each year. This will smooth a slightly irregular yearly growth pattern.
Bachelor's Degree	<ul style="list-style-type: none"> undergraduate degree of university education which may take from three to five years to complete. In <i>Job Futures</i>, the reference to Bachelor's degree or level includes undergraduate diploma or certificate programs which may take from one to two years to complete.
Canadian Occupational Projection System (COPS)	<ul style="list-style-type: none"> a family of economic models used to forecast current or future labour market conditions on an industrial and occupational basis. The system takes into account both the supply of, and the demand for, workers by industry and occupation.
Career	<ul style="list-style-type: none"> used to describe the sequence of occupations, jobs or positions held in the lifetime of a person.
Census (e.g., 1991, 1996)	<ul style="list-style-type: none"> a survey of all Canadians conducted every five years across Canada by Statistics Canada. Used to determine population characteristics such as number of people, ages, education level attained, employment, unemployment, occupations, earnings, etc.
Certification	<ul style="list-style-type: none"> the issuance of a formal document that certifies or declares that the holder possesses a set of skills, knowledge and abilities, usually received after completion of education/training/experience in the related areas.
College	<ul style="list-style-type: none"> post-secondary institution offering certificate and diploma programs. Courses are usually one to three years in length.

Term

Definition

Contracting-out

- when an organization hires someone from outside their organization to perform a pre-defined task, for an agreed upon fee, in a set period of time. Synonymous with outsourcing.

COPS

- **see Canadian Occupational Projection System**

Current Outlook

- used to describe the chances of finding employment for each occupation or field of study in *Job Futures* in the current period of time.
- **see *Understanding the Occupational Profiles in Part 1* and *Understanding the Field of Study Profiles in Part 2*.**

Data

- numerical information which captures historical facts, used for analysis to describe and characterize why events have occurred.

Demand

- in the context of *Job Futures*, this term represents the number of workers that employers need to produce a given quantity of goods or services.

Earnings

- income that workers receive in the form of wages, salaries and net self-employed earnings. Excludes other forms of compensation such as retirement benefits, stock options or expense accounts.
- **see Earnings (Full-time); (Full-year); (Part-time); and (Part-year)**

Earnings (Full-time)

- income that workers receive in the form of wages, salaries and net self-employed earnings from working 30 hours or more per week in their main job.

Earnings (Full-year)

- income that workers receive in the form of wages, salaries and net self-employed earnings from working either full time, part time, or both for the entire year.

Earnings (Part-time)

- income that workers receive in the form of wages, salaries and net self-employed earnings from working less than 30 hours per week in their main job.

Earnings (Part-year)

- income that workers receive in the form of wages, salaries and net self-employed earnings from working either full time, part time, or both for only part of the year.

Economic Conditions

- indicator of the state of the Canadian economy, in particular those relevant to the labour market.

Education, Training and Experience

- **see *Understanding the Occupational Profiles in Part 1*.**

Education Level – Community College

- Community college includes graduates of career programs, hospitals and schools of nursing, colleges d'enseignement general et professional (CEGEPs) and teachers colleges, but excludes university transfer program graduates.

Education Level – Master's, University

- Master's, university includes master's degrees and graduate diplomas and certificates.

Term	Definition
Education Level - Trade/Vocational	<ul style="list-style-type: none"> • Trade/vocational includes pre-employment or pre-apprenticeship and skill upgrading courses lasting three months or more, but does not include block release apprenticeship training, basic training for skill development, language training and job readiness training.
Education Level – Undergraduate, University	<ul style="list-style-type: none"> • Undergraduate, university includes bachelor's degrees, first professional degrees, and undergraduate diplomas and certificates.
Employed	<ul style="list-style-type: none"> • an individual who is working full time, part time, or for themselves. • see Employed (Full-time); (Full-year); (Part-time); (Part-year); and Self-employed.
Employed (Full-time)	<ul style="list-style-type: none"> • an individual who works 30 hours or more per week in their main job.
Employed (Full-year)	<ul style="list-style-type: none"> • an individual who had a job, either full time, part time, or both, for the entire year.
Employed (Part-time)	<ul style="list-style-type: none"> • an individual who works less than 30 hours per week in their main job.
Employed (Part-year)	<ul style="list-style-type: none"> • an individual who had a job, either full time, part time, or both, for only part of the year.
Employment Requirements	<ul style="list-style-type: none"> • the number of workers required by a specific industry to provide a certain quantity of goods or services. Synonymous with "demand."
Experience	<ul style="list-style-type: none"> • the knowledge and skills acquired through the performance of a set of activities.
"Fair" rating	<ul style="list-style-type: none"> • rating for current and future outlooks in Job Futures. • "Fair" labour market outlooks are neither "Good" nor "Limited". Jobs are more difficult to find; the probability of unemployment is higher; and wages and salaries are lower than in comparable occupational groups which are rated "Good." On the other hand, jobs are easier to find; unemployment is less likely; and wages and salaries are higher than in comparable industrial or occupational groups which are rated "Limited." • see <i>Understanding the Occupational Profiles in Part 1</i> and <i>Understanding the Field of Study Profiles in Part 2</i>.
Field of Study (Major)	<ul style="list-style-type: none"> • for purposes of analysis, the COPS group has lumped together certain programs of study. In <i>Job Futures</i> there are 34 trade/vocational fields of study, 42 at the community college and CEGEP level of study, 45 at the bachelor's university level, and 45 at the master's university level. • see Program of Study.
Field of Study (Broad)	<ul style="list-style-type: none"> • a grouping of major fields of study into nine broader areas of study including arts, business, education, engineering, humanities, life sciences, primary technologies, medicine and health, physical science, social sciences, and services. • see Field of Study (Major).

Term	Definition
Forecast	<ul style="list-style-type: none"> • in a <i>Job Futures</i> context, this term is used interchangeably with projection. • see Projection.
Forecast Period	<ul style="list-style-type: none"> • for the purposes of <i>Job Futures 2000</i>, the forecast period/horizon is 1999 to 2004.
Forecast Tool	<ul style="list-style-type: none"> • in the context of <i>Job Futures</i>, this term includes computer models, quantitative and qualitative information, expert knowledge, and a broad consultation network.
FOS	<ul style="list-style-type: none"> • see Field of Study (Major) or (Broad) • see <i>Understanding the Field of Study Profiles</i>
Future Outlook	<ul style="list-style-type: none"> • an estimation of the chances of finding work in the future for each occupation or field of study in <i>Job Futures</i>, based on past and current labour market conditions, and expert analysis of potential future trends for each occupation.
"Good" rating	<ul style="list-style-type: none"> • rating for current and future outlooks in <i>Job Futures</i>. • "Good" labour market outlooks usually mean that finding stable work is relatively easy and working conditions are attractive or improving. • see <i>Understanding the Occupational Profiles in Part 1</i> and <i>Understanding the Field of Study Profiles in Part 2</i>.
Industry	<ul style="list-style-type: none"> • a group of establishments who produce a common set of goods or services. For example, the retail trade industry includes all establishments who buy goods and resell them to the general public.
Industry Association	<ul style="list-style-type: none"> • an organization of companies that represents the industry and acts as a common spokesperson for the membership.
Job	<ul style="list-style-type: none"> • a paid position that requires specific knowledge, skills, experience or training that allows a person to perform a variety of required tasks in an organization.
Labour Force	<ul style="list-style-type: none"> • represents the population 15 years of age and older across Canada that is employed or unemployed, but actively looking for work.
Labour Force Survey (LFS)	<ul style="list-style-type: none"> • a monthly survey conducted across the 10 provinces in Canada by Statistics Canada of approximately 48,800 households to determine whether people above 14 years of age are working, not working, actively looking for work or no longer actively looking for work, i.e., not in the labour force.
Labour Market	<ul style="list-style-type: none"> • the forum where buyers of labour, i.e., employers, and sellers of labour, i.e., employees, meet to satisfy job requirements within the Canadian economy or marketplace.

Term

Definition

Labour Market Conditions

- labour market conditions in a *Job Futures* context are defined as "Good," "Fair" or "Limited".
- "Good" labour market conditions usually mean that finding stable work is relatively easy and working conditions are attractive or improving.
- "Fair" labour market conditions are neither "Good" nor "Limited." Jobs are more difficult to find; the probability of unemployment is higher; and wages and salaries are lower than in comparable occupational groups, which are rated "Good." On the other hand, jobs are easier to find; unemployment is less likely; and wages and salaries are higher than in comparable industrial or occupational groups, which are, rated "Limited".
- "Limited" labour market conditions mean that new entrants and re-entrants will have difficulty finding stable work, or that working conditions are not attractive or are deteriorating relative to those in other industries or occupations. For new entrants, such as school-leavers and immigrants, limited labour market conditions mean a low probability of finding permanent work and, if they find a job, relatively low pay. For employed workers, these relatively weak conditions will often mean a high probability of loss of work, a high probability of experiencing unemployment spells, and lower wages and salaries.

Labour Market Information (LMI)

- quantitative and qualitative information on employment, wages, standards, qualifications, job openings, working conditions and other factors related to the labour market.

Level of Study

- refers to the level of education, e.g., trade/vocational, college and university.

LFS

- see **Labour Force Survey**

"Limited" rating

- rating for current and future outlooks in *Job Futures*.
- "Limited" labour market outlooks mean that new entrants and re-entrants will have difficulty finding stable work, or that working conditions are not attractive or are deteriorating relative to those in other industries or occupations. For new entrants, such as school-leavers and immigrants, limited labour market outlooks mean a low probability of finding permanent work and, if they find a job, relatively low pay. For employed workers, these relatively weak conditions will often mean a high probability of loss of work, a high probability of experiencing unemployment spells, and lower wages and salaries.
- see ***Understanding the Occupational Profiles in Part 1 and Understanding the Field of Study Profiles in Part 2.***

LMI

- see **Labour Market Information**

Master's Degree

- post-graduate level of education attained after the successful completion of a Bachelor's degree at the university level. May take from one to two years to complete, depending on undergraduate qualifications and the Master's degree sought.

Mobility

- see **Occupational Mobility**

Term	Definition
National Graduate Survey (NGS)	<ul style="list-style-type: none"> • frequent survey of post-secondary school graduates conducted by Statistics Canada in which certain questions are asked of graduates two and five years after graduation that link education and training with current labour market status. Two-year surveys were conducted in 1984, 1988, 1992 and 1997. Five-year follow-up surveys were conducted in 1987, 1991 and 1997.
National Occupational Classification (NOC)	<ul style="list-style-type: none"> • classifies all occupations in Canada. This system of coding is the basis for the organization of occupations in <i>Job Futures</i>. • see <i>Understanding the Occupational Profiles in Part 1</i>.
New Job Openings	<ul style="list-style-type: none"> • the total number of new jobs due to changing economic activity and positions becoming vacant because of death, retirement, occupational mobility, and temporary labour force withdrawal.
New Job Seekers	<ul style="list-style-type: none"> • the total number of new job seekers entering the labour force. This number is the sum of recent graduates from the formal post-secondary school system, recent immigrants, and people re-entering the labour force after a temporary withdrawal, e.g., child bearing or rearing, educational leave, discouragement.
NGS	<ul style="list-style-type: none"> • see National Graduate Survey
NOC	<ul style="list-style-type: none"> • see National Occupational Classification
Non-completers	<ul style="list-style-type: none"> • individuals who have recently left the school system without graduating.
Occupation	<ul style="list-style-type: none"> • a collection of jobs or types of work sharing similar skills and responsibilities.
Occupational Group	<ul style="list-style-type: none"> • a group of similar occupations found in various industries or organizations. In <i>Job Futures</i>, an occupational group (3 digit NOC code) is an aggregate grouping of two or more occupations (4 digit NOC code). • see <i>Understanding the Occupational Profiles in Part 1</i>.
Occupational Mobility	<ul style="list-style-type: none"> • when, for whatever reason, an individual moves from one job to another without experiencing an extended period of unemployment, e.g., worker to supervisor or manager, or is between occupations, e.g., bank teller to financial advisor.
Outsourcing	<ul style="list-style-type: none"> • when an organization hires someone from outside to perform a predefined task for an agreed upon fee, in a set period of time. Synonymous with contracting-out.
Post-graduate	<ul style="list-style-type: none"> • continuing with some level of education after the completion of a university degree program, e.g. teaching certificate, lawyer, doctor, etc.
Post-secondary	<ul style="list-style-type: none"> • continuing with some level of education after completion of high school.
Prerequisites	<ul style="list-style-type: none"> • the previous education, training, experience, individual abilities, skills, or qualifications required for a person to undertake a particular program of study.

* Bold denotes other definitions found in this glossary

Term	Definition
Profession	<ul style="list-style-type: none"> • an occupation that requires specialized skills and advanced training.
Professional Association	<ul style="list-style-type: none"> • an organization that represents members of a professional occupation and may set standards for education/ training or professional designation.
Program of Study	<ul style="list-style-type: none"> • a detailed listing of areas of study developed by Statistics Canada. Encompasses some 150 areas of study at the university level and about 300 at the community college, CEGEP, and trade/vocational levels of study.
Projections	<ul style="list-style-type: none"> • a quantitatively based view of the future economy derived through the use of historical data, computer models, expert knowledge and consultations. In reference to <i>Job Futures</i>, the emphasis is on future labour market conditions. Synonymous with forecast.
Red Seal	<ul style="list-style-type: none"> • a nationally registered trademark symbol adopted for the Interprovincial Standards Program to signify interprovincial qualification of tradespersons at the journeyman level. It is affixed to provincial and territorial <i>Certificates of Apprenticeship and Qualification</i> of those apprentices and tradespersons who have met the national standard in a Red Seal trade. The Red Seal is a passport that allows the holder to work anywhere in Canada without having to write further examinations.
School Leavers	<ul style="list-style-type: none"> • individuals who have recently left the school system. Includes graduates and non-completers. • see non-completers.
Sector	<ul style="list-style-type: none"> • in some instances, this term may be used to describe a grouping of industries or a grouping of occupations. • see Industry.
Sector Council	<ul style="list-style-type: none"> • an organization that represents an industrial sector in terms of occupations, productivity, and viability of the industry.
Self-employed	<ul style="list-style-type: none"> • a worker who works for themselves at their main job.
Skill Level	<ul style="list-style-type: none"> • a phrase used to classify occupations in the NOC by the level of training, education or experience required to perform an occupation. • see <i>Understanding the Occupational Profiles in Part 1.</i>
Skill Type	<ul style="list-style-type: none"> • a term used to classify occupations in the NOC by the industry or sector in which the majority of the occupations fall. • see <i>Understanding the Occupational Profiles in Part 1.</i>
Supply	<ul style="list-style-type: none"> • in the context of <i>Job Futures</i>, this term represents the number of individuals offering their services to employers, including new entrants to the labour market as well as those with or without a job.
Trade/Vocational	<ul style="list-style-type: none"> • higher level of education that may or may not require the completion of high school and may involve on-the-job training as part of the course requirements.

Term

Definition

Training

- the acquisition of knowledge or skills by the performance of tasks under the direct supervision of a person who has already acquired the knowledge or skill. Training can occur on the job or in an educational program.

Trend

- an ongoing change in a set of observations taken over time.

Unemployed

- when an individual is not employed, is looking for work, and is available for work.

Unemployment Rate

- the percentage of individuals who are actively looking for work and are able to work but do not have a job, i.e., the number of unemployed individuals divided by the total number of people 15 years of age and older who have a job or are actively looking for work multiplied by 100, expressed as a percentage.
- in the context of *Part 1 of Job Futures*, the unemployment rate excludes full-time students who may be actively looking for work, or who are employed, and includes only the unemployed who had a job in the past 12-month period. This allows the unemployment rate shown in *Job Futures* to be calculated for a particular occupation. However, this rate is lower than the published national unemployment rate due to these exclusions.
- in the context of *Part 2 of Job Futures*, the unemployment rate is the percentage of graduates who are actively looking for work and are able to work but do not have a job.
- **see *Understanding the Occupational Profiles in Part 1 and Understanding the Field of Study Profiles in Part 2.***

University

- institution of higher education beyond the high school level, offering degree and certificate programs of study from one to four years in length, as well as post-graduate studies.

List of Organizations by Occupation (NOC)

011 Certified General Accountants Association of Canada
700-1188 West Georgia Street
Vancouver, British Columbia V6E 4A2
Tel: (604) 669-3555/1-800-663-1529
Fax: (604) 689-5845
Web site: www.cga-canada.org

Purchasing Management Association of Canada
1414-2 Carlton Street
Toronto, Ontario M5B 1J2
Tel: (416) 977-7111/1-888-672-5463
Fax: (416) 977-8886
E-mail: info@pmac.ca
Web site: www.pmac.ca

The Society of Management Accountants of Canada
120 King Street West, P.O. Box 176
Hamilton, Ontario L8N 3C3
Tel: (905) 525-4100
Fax: (905) 525-4533
Web site: www.cma-canada.org

0111 Certified General Accountants Association of Canada
700-1188 West Georgia Street
Vancouver, British Columbia V6E 4A2
Tel: (604) 669-3555/1-800-663-1529
Fax: (604) 689-5845
Web site: www.cga-canada.org

The Society of Management Accountants of Canada
120 King Street West, P.O. Box 176
Hamilton, Ontario L8N 3C3
Tel: (905) 525-4100
Fax: (905) 525-4533
Web site: www.cma-canada.org

0112 Canadian Compensation Association
10435 Islington Avenue, P.O. Box 294
Kleinburg, Ontario L0J 1C0
Tel: (905) 893-1689
Fax: (905) 893-2392
E-mail: info@cca-acr.org
Web site: www.cca-acr.org

012 Canadian Association of Management Consultants
181 Bay Street, Box 835
Toronto, Ontario M5J 2T3
Tel: (416) 860-1515/1-800-268-1148
Fax: (416) 860-1535/1-800-662-2972
Web site: www.cmc-consult.org

Certified General Accountants Association of Canada
700-1188 West Georgia Street
Vancouver, British Columbia V6E 4A2
Tel: (604) 669-3555/1-800-663-1529
Fax: (604) 689-5845
Web site: www.cga-canada.org

Royal Bank of Canada
20 King Street West
Toronto, Ontario M5H 1C4
Web site: www.royalbank.com/careers/careeratrb/index.html

The Canadian Real Estate Association
1600-344 Slater Street, Canada Building
Ottawa, Ontario K1R 7X3
Tel: (613) 237-7111
Fax: (613) 234-2567
E-mail: info@crea.ca
Web site: www.mls.ca

The Society of Management Accountants of Canada
120 King Street West, P.O. Box 176
Hamilton, Ontario L8N 3C3
Tel: (905) 525-4100
Fax: (905) 525-4533
Web site: www.cma-canada.org

- 013** Canadian Postmasters and Assistants Association
281 Queen Mary Street
Ottawa, Ontario K1K 1X1
Tel: (613) 745-2095
Fax: (613) 745-5559
E-mail: cpaa-acmpa@cyberus.ca
- Saskatchewan – Applied Science Technicians & Technologists
363 Park Street
Regina, Saskatchewan S4N 5B2
Tel: (306) 721-6633
Fax: (306) 721-0112
E-mail: sastt@sk.sympatico.ca
Web site: www.sastt.sk.ca
- 021** Canadian Council of Professional Engineers
401-116 Albert Street
Ottawa, Ontario K1P 5G3
Tel: (613) 232-2474
Fax: (613) 230-5759
E-mail: info@ccpe.ca
Web site: www.ccpe.ca
- Canadian Council of Technicians and Technologists
285 McLeod Street
Ottawa, Ontario K2P 1A1
Tel: (613) 238-8123
Fax: (613) 238-8822
E-mail: cctadm@istar.ca
Web site: www.cctt.ca
- Software Human Resource Council
30 Metcalfe Street, 4th Floor
Ottawa, Ontario K1P 5L4
Tel: (613) 237-8551
Fax: (613) 230-3490
E-mail: info@shrc.ca
Web site: www.shrc.ca
- The Association of Information Technology Professionals
200-315 S. Northwest Highway
Winnipeg, Manitoba R2H 2R1
Tel: (847) 825-8124/1-800-387-3516
Fax: (847) 825-1693
Web site: www.aitp.org
- The Royal Architectural Institute of Canada
330-55 Murray Street
Ottawa, Ontario K1N 5M3
E-mail: info@raic.org
Web site: www.raic.org
- 031** Canadian College of Health Service Executives
402-350 Sparks Street
Ottawa, Ontario K1R 7S8
Tel: (613) 235-7218/1-800-363-9056
Fax: (613) 235-5451
E-mail: cchse@cchse.org
Web site: www.cchse.org
- Canadian Teachers' Federation
110 Argyle Avenue
Ottawa, Ontario K2P 1B4
Tel: (613) 232-1505
Fax: (613) 232-1886
Web site: www.ctf-fce.ca
- 051** Canadian Association for Health, Physical Education, Recreation and Dance (CAHPERD)
1600 James Naismith Drive
Gloucester, Ontario K1B 5N4
Tel: (613) 748-5622/1-800-663-8708
Fax: (613) 748-5737
E-mail: CAHPERD@rtm.activeliving.ca
Web site: www.activeliving.ca/cahperd
- Canadian Library Association
602-200 Elgin Street
Ottawa, Ontario K2P 1L5
Fax: (613) 563-9895
Web site: www.cla.ca
- Cultural Human Resource Council
201-17 York Street
Ottawa, Ontario K1Y 4S9
Tel: (613) 562-1535
Fax: (613) 562-2982
E-mail: info@culturalhrc.ca
Web site: www.culturalhrc.ca
- 061** Canadian Professional Sales Association
610-145 Wellington Street West
Toronto, Ontario M5J 1H8
Tel: (416) 408-2685/1-888-267-2772 (Toronto)
Fax: (416) 408-2684
Web site: www.cpsa.com

- 062** Retail Council of Canada
1210-121 Bloor Street East
Toronto, Ontario M4W 3M5
Tel: (416) 922-6678/1-888-373-8245
Fax: (416) 922-8011
Web site: www.retailcouncil.org
- 063** Canadian Restaurant and Foodservices Association
316 Bloor Street West
Toronto, Ontario M5S 1W5
Tel: (416) 923-8416/1-800-387-5649
Fax: (416) 923-1450
Web site: www.crfa.ca
- Hotel Association of Canada
1016-130 Albert Street
Ottawa, Ontario K1G 3C9
Tel: (613) 237-7149
Fax: (613) 237-8928
E-mail: hac@hotels.ca
Web site: www.hotels.ca
- 071** Canadian Air Traffic Control Association (C.A.T.C.A.)
162 Cleopatra Drive
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Fax: (613) 225-8448
E-mail: catca@catca.ca
Web site: www.catca.ca
- The Canadian Trucking Human Resources Council
203-720 Belfast Road
Ottawa, Ontario K1G 0Z5
Tel: (613) 244-4800
Fax: (613) 244-4535
E-mail: info@cthrc.com
- 072** Custodial and Maintenance Association
70 Vanier Drive
Kitchener, Ontario N2C 1J5
Tel: (519) 745-5266
Fax: (519) 576-1640
- 081** Canadian Institute of Forestry
606-151 Slater Street
Ottawa, Ontario K1P 5H3
Tel: (613) 234-2242
Fax: (613) 234-6181
E-mail: cif@cif-ifc.org
Web site: www.cif-ifc.org
- The Mining Association of Canada
1105 – 350 Sparks Street
Ottawa, Ontario K1R 7S8
Tel: (613) 233-9391/1-800-567-2862 (Canada)
Fax: (613) 233-8897
Web site: www.mining.ca
- 091** Alliance of Manufacturers - Exporters Canada
1500-1 Nicholas Street
Ottawa, Ontario K1N 7B7
Tel: (613) 238-8888
Fax: (613) 238-7593
E-mail: national@the-alliance.com
Web site: www.the-alliance.org
- Board of Commissioners of Public Utilities of Newfoundland and Labrador
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St. John's, Newfoundland A1A 5B2
Tel: (709) 726-0553
Fax: (709) 726-9604
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Web site: www.cga-canada.org
- The Canadian Securities Institute
121 King Street West, 15th Floor
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Fax: (416) 359-0486
Web site: www.csi.ca
- The Society of Management Accountants of Canada
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- 112** Canadian Association of Management Consultants
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Web site: www.cmc-consult.org
- Canadian Compensation Association
10435 Islington Avenue, P.O. Box 294
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- Canadian Institute of Certified Administrative Managers
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Fax: (416) 923-2071
- Purchasing Management Association of Canada
1414-2 Carlton Street
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- 123** Appraisal Institute of Canada
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Fax: (204) 783-5575
E-mail: mail@aicanada.org
Web site: www.aicanada.org
- Canadian Independent Adjusters' Association
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- 124** Canadian Health Record Association
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- International Association of Administrative Professionals - Canada District
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- 143** Canadian Bankers' Association
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- 144** Canadian Compensation Association
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Web site: www.cca-acr.org
- 145** Canadian Library Association
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Ottawa, Ontario K2P 1L5
Fax: (613) 563-9895
Web site: www.cla.ca
- 146** Canadian Postmasters and Assistants Association
281 Queen Mary Street
Ottawa, Ontario K1K 1X1
Tel: (613) 745-2095
Fax: (613) 745-5559
E-mail: cpaa-acmpa@cyberus.ca
- 147** Canadian Professional Logistics Institute
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E-mail: loginfo@loginstitute.ca
Web site: www.loginstitute.ca
- 211** Association of the Chemical Profession of Ontario (ACPO)
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Fax: (416) 860-0580
Web site: www.acpo.on.ca
- 212** Biotechnology Human Resources Council
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Fax: (613) 233-7541
E-mail: info@bhrc.ca
Web site: www.bhrc.ca

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Fax: (250) 847-7728
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- 213** Canadian Council of Professional Engineers
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Fax: (514) 933-0242
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- 215** Geomatics Industry Association of Canada
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- 216** Software Human Resource Council
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- 315** Canadian Institute for Health Information (CIHI)
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- 411** Canadian Bar Association
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- 4141** Canadian Teachers' Federation
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- 626** Canadian Police Association
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- 642** Retail Council of Canada
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Job Futures Companion

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students

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Job Futures? Companion

Visit: www.hrdc-drhc.gc.ca/JobFutures

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What is the Job Futures Companion?

The **Job Futures Companion** was designed to act as a bridge between the valuable labour market information contained in **Job Futures** and the everyday issues that people are facing in employment and career planning. The **Companion** seeks to demonstrate how the types of information found in **Job Futures** can answer real life, critical questions on employment and career matters.

The **Companion** is a step-by-step guide to help users make the most of the information in **Job Futures**. Information is provided in a question-and-answer format. There are also three scenarios illustrating typical practitioner interviews with two students and a job seeker.

Whether the user is a career practitioner, teacher, student, job seeker or parent, the **Companion's** questions and answers can help build labour market information into the career planning process.

How is the Job Futures Companion Organized?

Questions and Answers

- The **Companion** is laid out in a question-and-answer format based on a survey of typical questions asked by job seekers and students.
- For each question, the user is guided through a series of steps that indicate which section(s) of **Job Futures** contain(s) relevant answers.
- Comments that accompany the steps offer advice and additional detail.
- The steps may vary depending on whether the Web or print version of **Job Futures** is being used. Steps for both are provided.

Scenarios

Three scenarios demonstrate how a practitioner could go about using various sections of **Job Futures** to answer questions about career planning. These scenarios demonstrate how the information can come together in a natural flow in a counselling session.

What is Job Futures?

Job Futures is developed by Human Resources Development Canada as a career planning tool to provide the latest available information about Canada's labour market, today and to 2004.

The section **Job Futures, LMI and Career Planning**, found at the beginning of both **Parts 1 and 2**, briefly illustrates how labour market information (LMI) fits into career or education planning, and puts the national LMI contained in **Job Futures** into this context.

Who Can Use Job Futures?

Job Futures is of value to anyone interested in knowing about the current and future outlooks for work in specific fields, and in the linkages between education/training and the world of work. Typical users may be:

- career/employment practitioners, including teachers and guidance counsellors;
- post-secondary students;
- high school students;
- parents wanting to help their children;
- workers;
- job seekers.

What is Included in the Job Futures 2000 Suite?

World of Work: Overviews and Trends examines broad economic and labour market issues crucial to understanding today's labour market.

- **Overview of Labour Market Trends:** designed to highlight the impact of changes caused by increased market activity and/or attrition (retirements, deaths) in the industrial, occupational and educational labour markets.
- **Emerging Sectors and Occupations:** points out new and growing sectors and occupations, and the skills that go with them. It reminds readers to investigate options outside the traditional areas.
- **Key Economic Factors to Consider:** provides an assessment of several economic indicators that people may want to take into account when making education or career choices. The outcomes evaluated include lifetime earnings by occupation, net benefits to investing in post-secondary education, factors relating to transitions in and out of the labour market, and relative unemployment rates.
- **Across Canada:** presents national and provincial samples of occupations with favourable outlooks over the next few years.

- **Overview of Outlooks by Occupation:** gives a summary of current and future labour market conditions (good, fair and limited) for each Skill Type (broad industry category) at each Skill Level (level of education/training required for the work). It provides an explanation of trends and gives exceptions to the general outlooks.
- **Overview of Outlooks by Field of Study:** summarizes current and future labour market conditions (good, fair and limited) for recent post-secondary graduates by level of education and major field of study with explanations and exceptions.

Part 1: Outlooks by Occupation breaks the world of work into 211 occupational groups and describes them in Occupational Profiles containing the following information:

- **At Work:** describes main work duties, types of potential employers, and related job titles.
- **Education, Training and Experience:** describes the skill level requirements.
- **In These Occupations:** provides information on general economic characteristics for the occupational group and compares them to all occupations (e.g. number of workers, employment rate and growth, percent self-employed, etc.).
- **National Outlook to 2004:** rates current and future prospects for finding work in the occupational group (good, fair, limited) and describes the

technological, economic and social changes that may affect the outlook, the relevant tasks and skills.

- **Graphics:** illustrate various characteristics of workers in each occupation such as: where they work; type of employment; distribution by age; a range of average full-time earnings for three age groups; current and future work prospects; and unemployment rate trends over 10 years.
- **Related Occupations:** identifies similar occupations or occupational groups.
- **Part 2 Field of Study Cross-Index:** identifies fields of study related to the occupations.

See **Understanding the Occupational Profiles in Part 1** for a detailed explanation of each sub-section, how to use it, as well as underlying methodologies, and data sources.

Part 2: Outlooks by Field of Study examines the experiences of graduates from 155 fields of study at the trade, college/cégep, and university (both undergraduate and master's) levels, and describes them in Field of Study Profiles containing the following information:

- **Program of Study:** describes its prerequisites, provinces and languages in which it is offered, and how it might be combined with other programs.
- **Graduates Speak Out:** describes the responses of recent graduates to questions about their educational and job experiences.

How do Parts 1 and 2 of Job Futures Relate to Each Other?

- **Profile of Recent Graduates:** describes recent employment trends and movement between occupations or sectors; earnings two and five years after graduation; various labour market facts; and the latest available statistics comparing recent graduates with those of 10 years ago.
- **National Outlook for Graduates to 2004:** evaluates current and future labour market conditions, rated as good, fair, or limited, for workers in occupations where graduates normally look for work.
- **Graphics:** illustrates various characteristics of the field of study such as: top five occupations of graduates; labour force status (percent unemployed; percent employed, full time and part time); percentage self-employed; average full-time earnings of graduates two and five years after graduation; and current and future work prospects.
- **Related Fields of Study:** identifies similar programs in terms of both learning and those which also supply workers to occupations where graduates are expected to look for work.
- **Part 1 Occupational Cross-Index:** identifies occupational groups in which recent graduates are most likely to look for work.

There are direct and indirect relationships between occupations and fields of study. **Parts 1 and 2** provide the means to understand these complex relationships, enriching the career planning or work search process.

Part 1 can be used by people currently seeking employment by providing comparative information to help target their work search. **Part 1** is also useful for those undertaking more long-term planning, to review information about a wide range of potential occupations and to help determine the associated educational decisions they may need to make.

Each occupational profile in **Part 1** has a **Field of Study Cross-Index** which identifies the fields of study in **Part 2** which are expected to supply graduates to that occupational group.

Part 2 is useful for people considering various post-secondary education options, by providing information which can be compared by level of study or across fields of study. It also provides examples of typical occupations where recent graduates found employment, which can help determine longer-term career paths and help target a work search.

Every field of study profile in **Part 2** has an **Occupational Cross-Index**, which identifies the main occupations in **Part 1** in which recent graduates found work.

See **Understanding the Field of Study Profiles in Part 2** for a detailed explanation of each sub-section, how to use it, as well as underlying methodologies and data sources.

- The section, **Understanding the Occupational Profiles** found in **Part 1**, gives an explanation of the information found in each section of the 211 occupational profiles, including dates and sources for data. There is also: a detailed explanation of the meaning of the “good,” “fair,” and “limited” ratings for current and future labour market conditions for occupation; an explanation of the National Occupational Classification (NOC); and a list of the NOC Skill Type and Skill Level Categories.

- The section, **Understanding the Field of Study Profiles** found in **Part 2**, gives an explanation of the information found in each section of the 155 field of study profiles, including dates and sources for data. There is also a detailed explanation of the meaning of the “good,” “fair,” and “limited” ratings for current and future prospects for finding work for recent graduates; and an explanation of the Field of Study Classification.

- **For More Information** includes lists of provincial/regional versions of **Job Futures**; other provincial/regional occupational, labour market and career information resources; other national HRDC career and labour market research products; and examples of other related sites.

- **Listing of Organizations by Occupation** in **Part 1** lists contact information for organizations consulted in the development of **Job Futures**, including professional, trade and business associations, unions, sector councils and educational groups.
- **Glossary:** defines and explains economic, labour market and other terminology specific to **Job Futures**.

Definition of Rating Terms

For a complete explanation of how the “Good”, “Fair” and “Limited” ratings used to describe current and future outlooks for finding work in **Job Futures** are determined, and what they mean, see **Understanding the Occupational Profiles** in **Part 1**, and **Understanding the Field of Study Profiles** in **Part 2**.

In summary, the ratings for the occupational outlooks are based on an analysis including indicators such as unemployment rates and trends, earnings and employment growth, as well as information gathered during consultations with over 130 organizations as mentioned above.

A “Good” rating means that earnings and/or chances of finding work are above average relative to all occupations.

A “Fair” rating means that it will be more difficult to find work and/or earnings are lower relative to those with a ‘good’ rating, when comparing all occupations.

A “Limited” rating means new entrants and re-entrants will have difficulty finding work and/or earnings are below average, when comparing all occupations.

It is important to keep in mind that these ratings do not take into account individual preferences, interests, skills, aptitudes, talents, and experience.

What Do the Earnings Graphs Mean?

The earnings graph found in each profile in **Part 1** shows the full-time earnings for three age groups chosen to represent entry level, mid-career and peak earnings in the occupational group. This approximates patterns of earnings growth that could occur over the span of a career. It also provides information for those making career moves at different points in their career path. Three earnings figures are given for each age group within that occupation: the minimum earnings of the top 20% of workers; the average of all earners in the age group; and the maximum earnings of the lowest 20% of workers.

For comparison, the average earnings of all ages of workers in the occupational group are presented, along with the average earnings for all occupations.

The earnings graph in each profile in **Part 2** shows results from three graduate surveys: 1990 post-secondary graduates surveyed two years after graduation and again five years after graduation; and 1995 graduates two years after graduation. For each survey the average of the top 20% of earnings, the average earnings and the average of the lowest 20% of earnings are given. For comparison, the overall average of earnings at the relevant level of study is also provided for each survey.

How Do I Find an Occupation or Field of Study in Job Futures?

Web Version

To locate information about a specific occupation, go to **Part 1: Outlooks by Occupation**, and select one of the following options, which can be found under **Listings of Occupational Profiles**, on the **Part 1** home page and side bar:

1. Search and Compare function
2. Detailed Index of Occupational Titles
3. Alphabetical Listing
4. Listing by Broad Industrial Grouping (NOC Skill Type)
5. Listing by Education and Training Level (NOC Skill Level)

To locate information about a specific post-secondary field of study, go to **Part 2: Outlooks by Field of Study**, and select one of the following options, found under **Listings of Field of Study Profiles** on the **Part 2** home page and side bar:

1. Search and Compare function
2. Detailed Index of Field of Study Titles
3. Alphabetical Listing
4. Listing by Broad Field of Study
5. Listing by Level of Education

The **Search and Compare** function is symbolized throughout the Companion and on the Web site by this image. This new feature allows the user to search the profiles in **Part 1** or **2** for titles, codes or phrases of interest, and then compare the complete profiles or selected topics of interest for up to five occupations or fields of study at the same time.



Print Version

To locate information about a specific occupation of interest in **Part 1**, there is a choice of indexes in the **Table of Contents**, where the occupational groups are sorted three ways:

1. Alphabetical Listing
2. Listing by Broad Industrial Grouping (NOC Skill Type)
3. Listing by Education and Training Level (NOC Skill Level)

There is also a **Detailed Index of Occupational Titles** in the Appendix.

To locate information about a specific field of study in **Part 2**, there is a choice of indexes in the **Table of Contents**, where the field of study titles are sorted three ways:

1. Alphabetical Listing
2. Listing by Broad Field of Study
3. Listing by Level of Education

There is also a **Detailed Index of Field of Study Titles** in the Appendix.

What Other Resources Complement the Information in Job Futures?

Job Futures is a tool that contains practical labour market information to help make informed career and education decisions. Other resources can provide useful supplementary details about specific institutions (start dates, program costs, etc.), financial aid, funding, and job vacancies. It may also be desirable for users to take interest and aptitude tests before considering the information in **Job Futures**. For more specific occupational task descriptions, check out the National Occupational Classification (NOC). The Web version of **Job Futures** has links from every occupational profile to the NOC on-line. For regional information, see province/territory-specific versions of **Job Futures** listed in **For More Information**, or under **Other Resources** on the Web site.

The Questions

OCCUPATIONAL DESCRIPTION

1. What does a _____ do?
2. What are the differences between a _____ and a _____?

EDUCATION AND TRAINING

3. Why should I continue my education past high school?
4. One of my favourite subjects is _____. What can I do with a degree/diploma/certificate in _____?
5. What education, training or experience do I need to be a _____?
6. What courses do I need to get into the _____ program?
7. Where can I take the _____ education/training program, and how long will it take?
8. Should I go to college, university, or trade school to take a _____ program?

WORK PROSPECTS

9. Which occupations offer the best chances of finding work?
10. How does the future look for the _____ occupation?
11. What are my chances of getting a job after I graduate from the _____ program?
12. How is this national information relevant to me in my own province/territory?
13. If labour market conditions for _____ are rated as “limited”, is retraining advisable?

JOB MOBILITY

14. If I want to change my job, what are my options?

WAGES

15. What are the earnings for the _____ occupation?
16. How much money do graduates from a _____ program make?

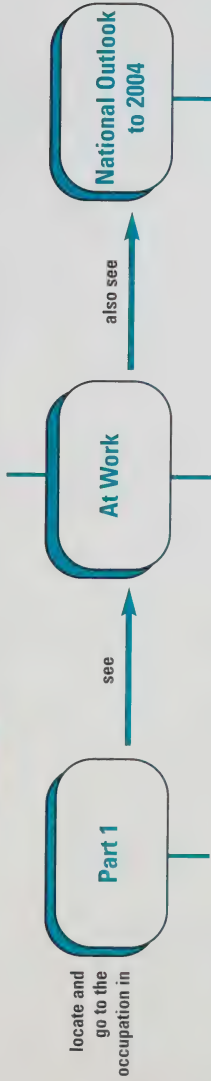
QUESTION 1

What does

a _____
do?



For more details, consult the NOC manual. There is a direct link in the "At Work" section from the occupational profile in Job Futures to the corresponding NOC profile.



locate and
go to the
occupation in

Part 1

see

At Work

also see

**National Outlook
to 2004**

An occupation may be clustered with other occupations. For example, "wood products assembler" is contained within "Other Assembly and Related Occupations" (NOC 949), which includes boat assemblers, furniture and fixture assemblers and other related occupations.

Each occupation has a general statement of its relevant tasks and duties. This can help people compare their own skills to those required for the tasks. For example, Civil Engineers (NOC 2131) plan, design, evaluate, research and manage projects for the construction and repair of structures.

Check this section for hints about changes in skill requirements based on recent labour market trends.



*Use **Search and Compare in Part 1** on the Web site to compare "At Work" or other topics of interest for up to five occupations at the same time.*

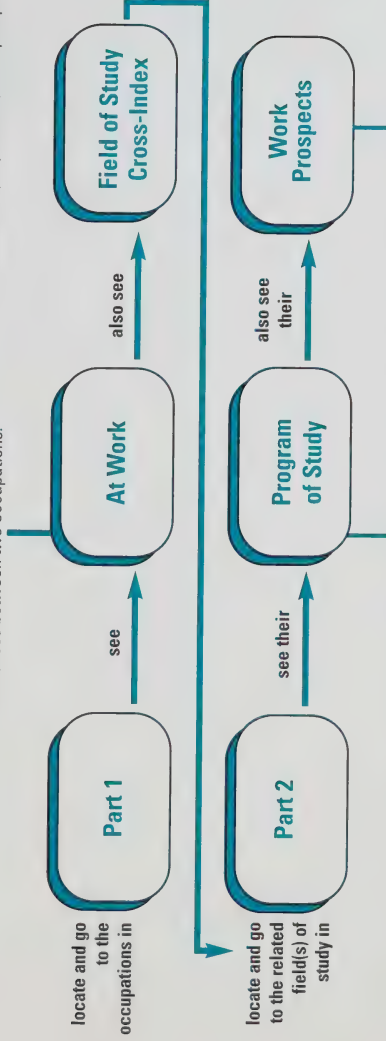
QUESTION 2

What are the differences
between a _____ and
a _____?



Compare a brief description of the major duties for a quick orientation to the general differences between two occupations.

See other sections of the profiles to compare other factors of interest, such as average earnings, industrial sectors where people work, work prospects, etc.



Explore the differences in the programs of study associated with the occupations being compared.

See **Definition of Rating Terms** (pg. 5). "Good" means better than average, "Fair" means average, "Limited" means below average. Ratings are averaged across an occupational group, therefore a particular rating may not apply to every occupation within that group. Ratings may vary over time, and across provinces/territories and local communities.

*Use **Search and Compare** on the Web site to view comparisons of the complete profile or any topics of interest for up to five occupations or fields of study at the same time.*



Q U E S T I O N 3

Why should
I continue my education
past high school?



There are several sections that discuss general trends and the potential impacts on job opportunities at various education levels. See **Overview of Labour Market Trends, Emerging Sectors and Occupations and Key Economic Factors to Consider.**

World of Work: Overviews and Trends

go to

see

Overview of Job Futures Outlooks

Compare the "good", "fair", and "limited" ratings of labour market conditions for various skills levels, which reflect levels of education and training, in the "Summary Table of Labour Market Conditions - Current and 2004." In general, people with no formal education find work in Skill Level D, where work prospects are generally rated as "limited". There are also fewer Occupational Skill Types (see Question 9) open to them for employment opportunities.

also

Compare the unemployment rates and full-time earnings in the table "Labour Market Outcomes of Recent Graduates" across the levels of education. Note that the average earnings increase with the level of education.

Skill Levels are coded as follows:

- A:** university degree;
- B:** post-secondary education, apprenticeship training, and/or 3 to 4 years of specific work experience/training;
- C:** secondary school education and/or up to 2 years of specific work experience/training;
- D:** up to 2 years of secondary school and training;
- M:** managerial occupations.

also
see

Part 1

Review the profiles of occupations which require high school or less by using the "Listing by Education and Training Level" in **Part 1** and on the Web site to identify those in Skill Levels C and D.

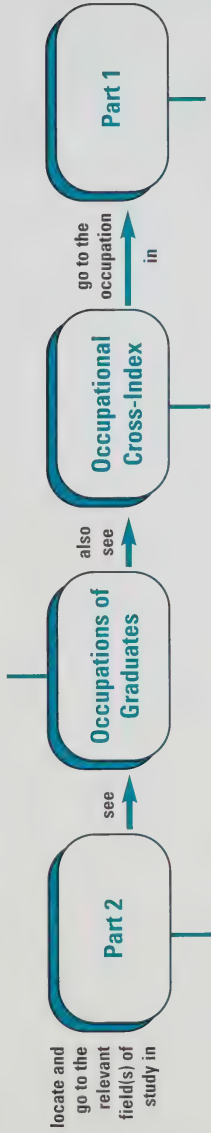
Q U E S T I O N 4

One of my favourite
subjects is _____.

What can I do with a degree/
certificate/diploma in _____?



Indicates where recent graduates found jobs. For example, 15.8% of University English graduates (U402) found work as Secondary and Elementary School Teachers and Counsellors (NOC 414), and 13.4% found work in the Paralegal, Social Services, Education and Religion occupational group (NOC 421).



For example, there are two listings for a university degree in English (U402 and M402), and four listings for drafting (C334, C370, T334, and T335).

Lists occupational codes related to the field of study for the top occupations (by percentage) in which graduates from the program were working two years after graduation.

Get more detailed information about related occupations, including major duties, industries where they find work, etc.

The letters in the code refer to **educational levels**:

T = Trade/Vocational
C = College/Cégep
U = Undergraduate University
M = Master's University

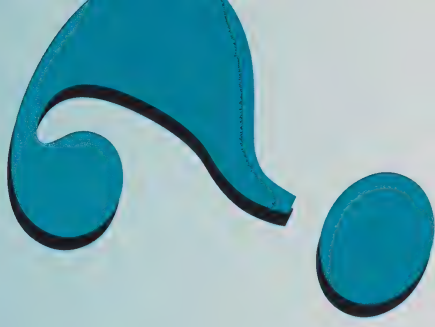
See "About the Field of Study Classification" in **Understanding the Field of Study Profiles** in **Part 2** for more information.



*Use **Search and Compare** in **Part 2** and select the "Occupations of Graduates," or other topics of interest, to compare up to five fields of study at the same time.*

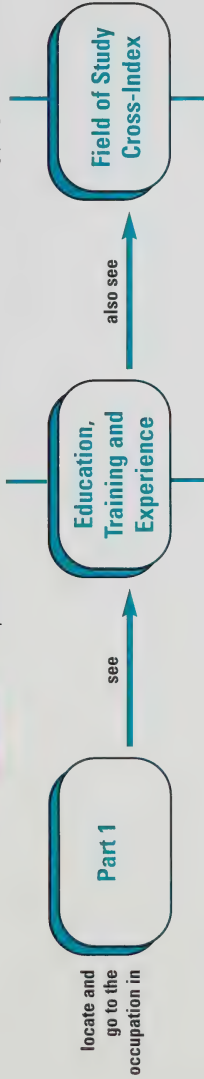
Q U E S T I O N S

What education, training,
or experience do I need
to be a _____?



Use the link to the NOC site in "At Work" in the Web version for more details about this occupation.

Explore related education and training programs in **Part 2**.



locate and go to the occupation in

Education,
Training and
Experience

Field of Study
Cross-Index

Find requirements that include formal and informal education, special training, licences, bondability, and specific provincial differences. For example, workers in the occupational group that includes Bookkeepers (NOC 1231) must have a high school diploma, with post-secondary education and on-the-job training.

A program listed in the Cross-Index may not provide direct education or training for the occupation being explored. For example, the **Field of Study Cross-Index** for Bookkeepers (NOC 1231) identifies five different programs whose graduates found employment in related occupations.

Use *Search and Compare* in **Part 1** to compare the 'Education, Training and Experience' section for up to five occupations at the same time.



Q U E S T I O N 6

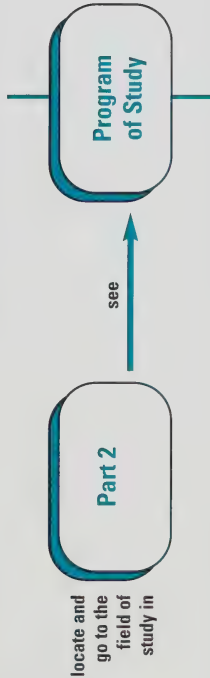
What courses do I need
to get into the _____ program?





*Use **Search and Compare** in Part 2 to compare the “Program of Study” and other topics of interest for up to five fields of study at the same time.*

Prerequisites for the program are listed. For example, the Medical Radiation Technologist program (C580) at the community college/cégep level requires a high school diploma with English (French), biology, chemistry, mathematics and physics. Applicants must pass an interview and provide a letter of recommendation.



locate and
go to the
field of
study in

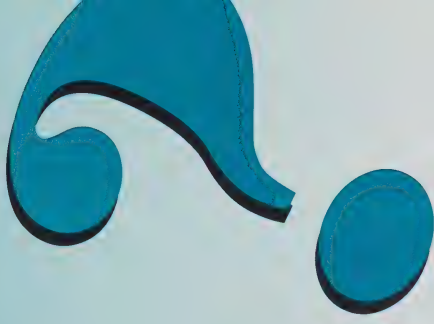
see

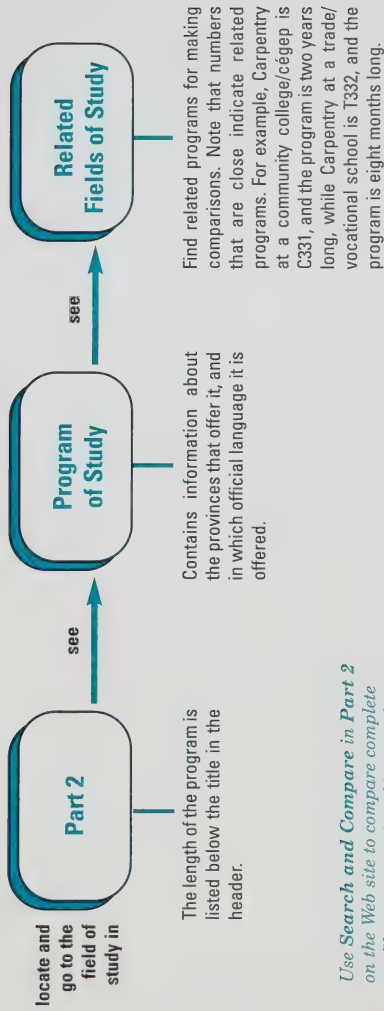
Program
of Study

For people in high school, the prerequisites can be used as information to guide course selection.

Q U E S T I O N 7

Where can I take the _____
education/training program,
and how long will it take?



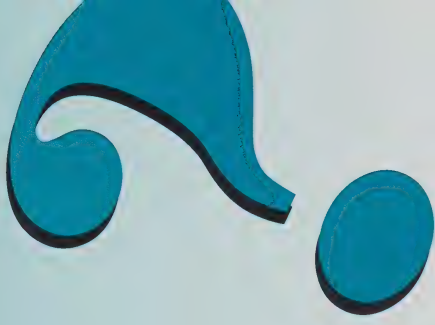


*Use **Search and Compare** in **Part 2** on the Web site to compare complete profiles or any topics of interest for up to five fields of study at the same time.*



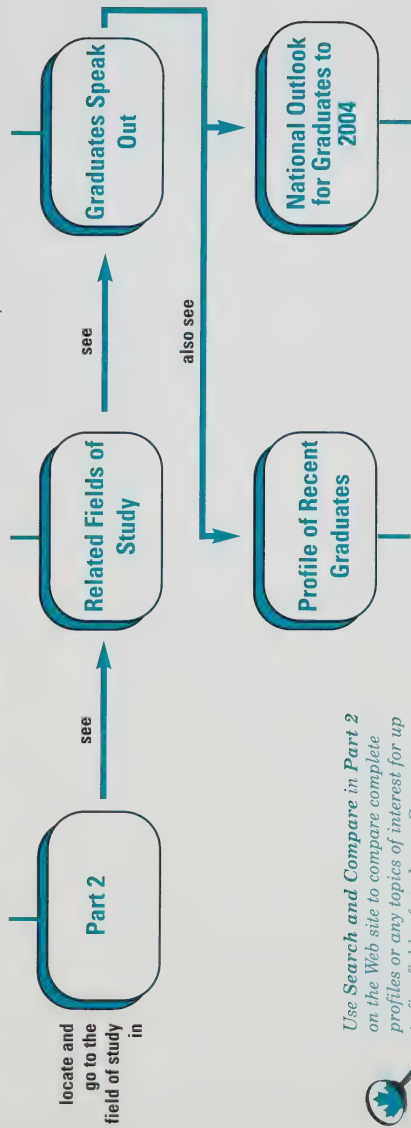
Q U E S T I O N 8

Should I go to college,
university, or trade school
to take a _____ program?



Find corresponding programs for different education levels. Note that related programs are indicated by closely related numbers. For example Commerce - Business Administration at university is U120 and Business Administration at trade school is T121.

Compare satisfaction of graduates with their program choice. For example, in Business Administration (C121), 70% of graduates would make the same educational choice again, compared to 71% of graduates from all fields of study at the same level of education.



Use Search and Compare in Part 2 on the Web site to compare complete profiles or any topics of interest for up to five fields of study. eg. Compare C121, U120 and T121.



Compare the labour market experiences of recent graduates from the related fields of study, as well as their outlooks, to see potential differences in outcomes depending on level of study chosen.

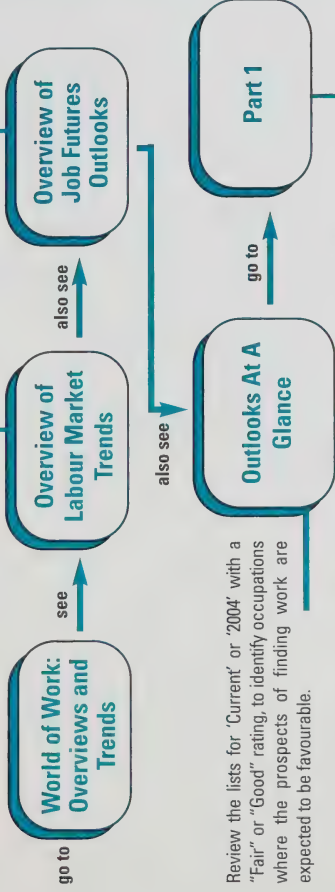
Q U E S T I O N 9

Which occupations
offer the best chances
of finding work?



Review this section for a summary of trends related to industries, occupations, and levels of skills and education.

For more detailed information, overall ratings and exceptions, by skill type, skill level (see Question 3, pg. 15), level of education and broad field of study.



Review the lists for 'Current' or '2004' with a "Fair" or "Good" rating, to identify occupations where the prospects of finding work are expected to be favourable.

Once some occupations of interest have been identified, compare other factors to help narrow down choices. For example, several occupations may have a 'Good' rating, but other factors such as average earnings, employment growth patterns, unemployment rates, education/training requirements, etc. may differ significantly and should also be taken into consideration.

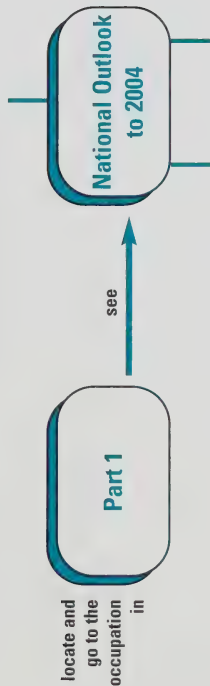
Using the **Search and Compare** function on the Web site, use 'Select Work Prospects Rating' in the **Optional Criteria** window, choose "Good" or "Fair" in the **Current and/or Year 2004** columns, and click the **Search** button to generate a list of all occupations with above average or average outlooks. You can then select up to five occupations to compare the **Complete Profile** or create a **Customized Profile**, keeping in mind that the **Work Prospects** ratings are only one factor to consider when making work search or career planning decisions.



How does the future look
for the _____ occupation?



Find information about recent trends and prospects for finding work, now and in 2004. For example, Writing, Translating and Public Relations Professionals (NOC 512) have a future outlook of "Fair", and most of the increase in demand is expected to be in the business services and printing and publishing industries.

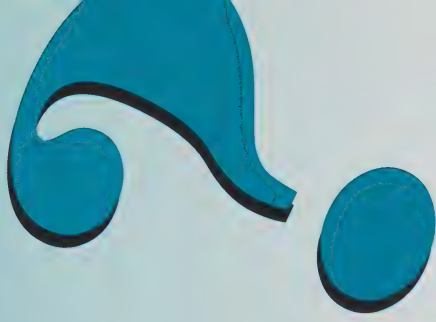


For a description of what the good, fair and limited ratings mean, please see "**Definition of Rating Terms**" on pg 5.

Information about increasing and decreasing demand in different industries can help a person choose a career path, target a work search, or prepare for a changing labour market by taking specialized training or moving to a different industry sector.

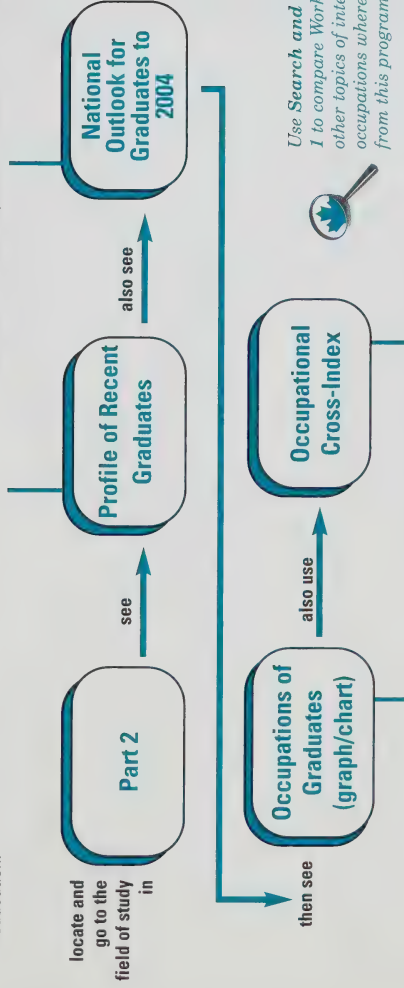
QUESTIONS

What are my chances
of getting a job after I graduate
from the _____ program?



Examine post-graduation statistics. For example, at the trade/vocational level, 96% of Machinist (T383) graduates entering the labour force found full-time jobs, better than the average of 72% for all successful completers from this level of education.

Find current and projected labour market conditions. To continue the example, current conditions for trade school Machinists (T383) are rated "Fair," and are expected to remain "Fair" through to 2004.



Use **Search and Compare in Part 1** to compare *Work Prospects* and other topics of interest for the five key occupations where recent graduates from this program found work.

Explore in more detail the related occupations in **Part 1** in which recent graduates found work, particularly the "National Outlook to 2004" section and the "Work Prospects" graph.

Find the top five occupations, by percentage, in which graduates from this field of study found work.

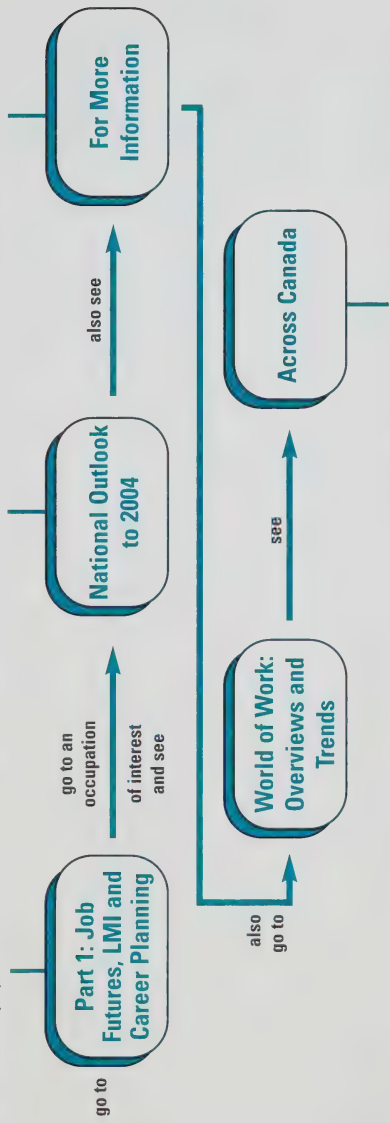
Q U E S T I O N 1 2

How is this national
information relevant to me in
my own province/territory?



See **Important Planning Steps** for an explanation of national versus provincial/territorial labour markets. Note that the majority of occupations in Canada are linked to a national labour market. Few occupations are province/territory-specific.

Find lists of provincial versions of Job Futures and resources with similar information to compare national, provincial and local occupational information. This section is under **Other Resources** on the Web site.



Review this section to see why trends may vary at national and provincial levels. Check out the map for lists of sample occupations with a favourable outlook and compare the similarities and differences. Links to related Web sites are provided as well.

QUESTIONS 13

If labour market conditions
for _____ are rated as “limited”,
is retraining advisable?



Explain the labour market ratings to the client. "Good" means better than average, "Fair" means average, "Limited" means below average. Note that because ratings are averaged across an occupational group, a particular rating may not apply to every occupation within that group, and may vary across provinces/territories and local communities. See **Understanding the Occupational Profiles** for more detail on ratings.

locate and
go to the
occupation
in

Part 1

see

National Outlook to 2004

A "Limited" outlook does not necessarily mean to avoid that occupation but to consider the factors involved in such a rating and weigh them against the individual's preferences, aptitudes, skills, interests, experience and talents. See **"Definition of Rating Terms"** on pg. 5.

This section contains information about what skills the labour market requires. Also learn about which industries may have the most opportunities for a retrained worker. For example, for Accounting and Related Clerks (NOC 1431), good computer skills will be more and more essential because of the increased use of computerized accounting, inventory and billing systems.

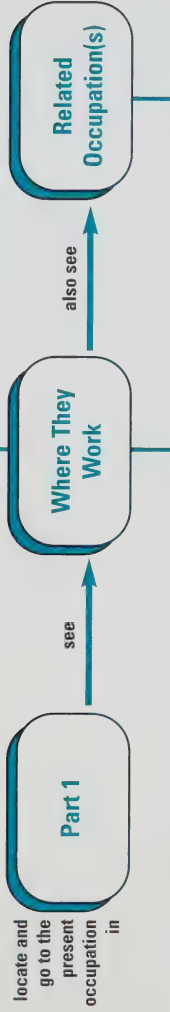
If I want to change my job,
what are my options?





*Use **Search and Compare in Part 1** on the Web site to compare topics of interest for up to five occupations at the same time.*

Identifies different industrial sectors that hire from the particular occupational group. For example, the top two industries of employment for people in Civil Engineering (NOC 2131) are Professional Services (46.5%) and Construction (11.6%).



Can suggest alternatives for a person who is considering a shift to another industry. For example, Facility Operation Manager (NOC 072) lists Wholesale Trade, Amusement & Recreation Services, Retail Trade, Finance & Real Estate etc. as possible industrial sectors to research.

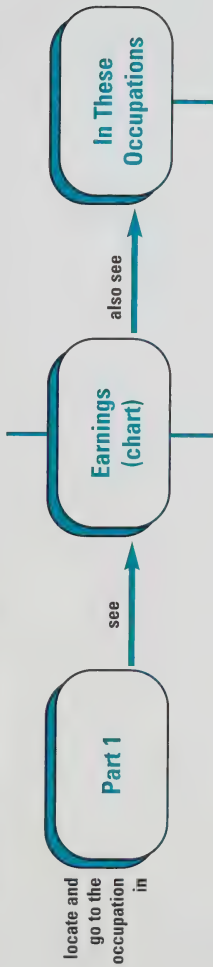
If the person is interested in changing occupations, check the related occupations. Compare the requirements and other factors of interest with those of the present occupation.

Q U E S T I O N 1 5

What are the earnings for the
_____ occupation?



Indicates the full-time, full-year earnings of the top 20%, the average, and the lowest 20% of workers in the occupational group for three different age groups. There is also a comparison of the overall average earnings for workers of all ages in "This Occupation" and in "All Occupations". See "What Do the Earnings Graphs Mean?" on pg. 6, or go to "About the Charts" in **Understanding the Occupational Profiles in Part 1** for a more detailed explanation of earnings.



*Use **Search and Compare** in Part 1 on the Web site to make comparisons of earnings or other topics of interest for up to five occupations at the same time.*



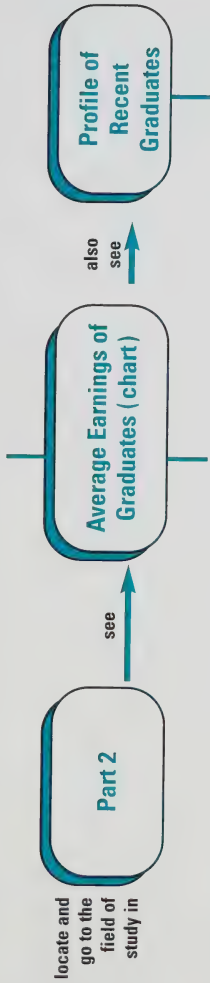
The three age groups roughly represent entry-level earnings, mid-career earnings and peak earnings in this occupation. This demonstrates potential growth over the span of a career and provides information for those making career moves at different points in their career path. For example, the average for computer programmer (NOC 2163) in the 20 - 29 age group is \$32,800 while the average for the mid-career earner (30 - 39) is \$41,500 and the average of the peak earner (40 - 49) is \$46,600.

Look for information about the unemployment rates, earnings levels relative to others, etc. You may find, for example, that although the earnings may be below average, other factors may be above average.

How much money
do graduates from
a _____ program make?



The earnings graphs show results from three national graduate surveys, which surveyed graduates of trade, college and university programs: 1990 graduates two years, and again five years, after graduation; and 1995 graduates two years out of school. For each survey, the average of the top 20% of earnings, the average earnings and the average of the bottom 20% of earnings are given. Finally, the overall average of earnings at this level of study is given for each survey for comparison.



Use **Search and Compare** in **Part 2** on the Web site to compare any topics of interest for up to five fields of study at the same time.

The range of earnings in the chart gives an idea of how earnings may vary over time. The three numbers presented for each survey show the potential range of earnings for a new entrant in the field. For example, a community college instrumentation (C382) graduate will find a range of \$20,000 to \$59,200 for 1995 graduates in 1997. See "About the Charts" in **Understanding the Field of Study Profiles** in **Part 2** for additional explanation of the components of this chart.

Provides information about a range of important factors other than earnings — full-time and part-time status of graduates, unemployment rates, etc.

DAVID: HIGH SCHOOL STUDENT

David is in Grade 11 and did not have any idea of what he wanted to do. After he completed some interest and aptitude tests in career class, he found a few things he wanted to know more about. When he was called in for the compulsory one-on-one interview, this was some of our conversation.

DAVID: I really like my Mechanical Drafting course and Machine Shop class. The jobs that sounded best to me on the list from the interest tests were Mechanical Engineer or Mechanical Engineering Technologist, but I don't really know the difference.

COUNSELLOR: OK, we can look up descriptions of both of those occupations in the Occupational Profiles of **Part 1 of Job Futures**. From the **Detailed Index of Occupational Titles**, we can find the NOC codes for these occupations - Mechanical Engineers is 2132, and Mechanical Engineering Technologist is part of 223 - Technical Occupations in Civil, Mechanical and Industrial Engineering.

Looking at Mechanical Engineers first, we can see that in the **At Work** section, it says that they plan, design, evaluate, research and manage projects related to the operation of machinery and systems for heating, ventilation, and air conditioning, power generation, transportation, processing and manufacturing.

Now, in the **At Work** section of Mechanical Engineering Technologists and Technicians it says they provide support in the preparation of engineering designs, drawings, and specifications for

machinery, heating, and ventilating systems, and for tools, moulds, and other equipment.

So, it sounds like the engineers have more of the final responsibility while the technicians and technologists do the work to put the engineers' ideas into action.

DAVID: That doesn't help me very much. Is there a big difference in the money they make?

COUNSELLOR: Let's look at Mechanical Engineers first. They give you information on earnings for three age groups here so you can get an idea of the growth in earnings throughout a career. The 20 - 29 age group would apply to you as a graduate starting in an entry-level position. The average earnings for that age group are \$33,300.

It also gives you the "Highest 20%" which refers to the 20 percent of workers who earn *as much or more* than the number shown - \$41,100, and the "Lowest 20%" for those who earn *as much or less* than the number shown - \$24,500.

Now if you want an idea of how much you could be making at the height of your career look at the earnings of the third age group (40 - 49) - an average of \$46,100.

We can easily compare several earnings using the **Search and Compare** function on the Web site. If we select Mechanical

Engineer and Mechanical Engineering Technicians and Technologists from the listing of occupations in the window and select the Earnings box in the check list, we will get just the earnings of the two for an easy comparison.

But don't forget these technical occupations' earnings include the civil and industrial technicians as well as mechanical. You may want to ask at the community college/cégep how much their mechanical graduates make on average, two years after graduation.

Another thing you might want to look into besides earnings is your chance of finding work. For instance, for the Technologist/Technician it says in **National Outlook to 2004** that current labour market conditions for new entrants in these occupations are rated "Fair" and will remain "Fair" through 2004. The same section for the Mechanical Engineers says the current conditions are "Good" and will continue to be to 2004.

DAVID: What do they mean by "Good"?

COUNSELLOR: There are several factors involved in assigning a "good," "fair" or "limited" rating to an occupation. A key factor is the ability to find work—how many job openings there will be compared to how many people there are looking to fill them. Working conditions such as earnings levels and periods of unemployment are also considered. "Good" means that earnings

levels and the chances of finding work are better than average. “Fair” means that there is an average chance of finding work compared to all occupations, and the earnings levels and rates of unemployment are average too. “Limited” means it may be more difficult than average to find a job, because there may be more people than work available. It may also indicate lower earnings and higher unemployment rates relative to the average.

It’s important to understand that, when a rating is given for a whole occupational group, it doesn’t always apply to every occupation within the group—the group rating is the average of all of them. And ratings can vary across provinces and local communities, and over time.

DAVID: I want to find out what education I need for these two occupations.

COUNSELLOR: Well, the **Education, Training and Experience** section of the Mechanical Engineers occupational profile says that you usually require a bachelor’s degree, which is three or four years of university. The same section for the Technical Occupations in Engineering says you usually need a college diploma, which is two years.

DAVID: The number of years is so different—four years or two years. It’s pretty expensive to pay for four years of university and I heard that college graduates are more likely to get hired than university graduates. Is that true?

COUNSELLOR: I don’t think that’s the case in this area of work. But the **Field of Study Cross-Index** for these occupations refers us to **Part 2 of Job Futures**, to the educational fields associated with the occupation. There’s a lot of information there that can help you decide whether it’s a good investment or not. Let’s look at Mechanical Engineer - U316.

*I showed him the general information available in **Part 2: Outlooks by Field of Study**. Using the **Search and Compare** function on the Web site, we selected five of the college and university programs from the field of study cross-index for these two occupations, and compared the **Program of Study** section of each. I explained that he could make the same comparison using the print version of **Job Futures** in the library.*

*Then we compared the **Occupations of Graduates** graph to see where the grads ended up. Most university grads found work in the area of Civil, Electrical and Chemical Engineering while most college grads worked in the area of Motor Vehicle Mechanics and Machinery and Transportation Equipment Mechanics. David observed that where they end up is very different.*

COUNSELLOR: Let’s look at the **Labour Market Facts** for each one in the **Profiles of Recent Graduates** section. Ninety-seven percent of the Mechanical Engineering university graduates who entered the work force found full-time employment compared to 74 percent of all graduates at this level of study, that is, all university

graduates. Ninety percent of the Mechanical Engineering Technologies college graduates who entered the workforce found full-time employment compared to 76 percent of all college graduates.

I could tell that David was almost at the point of saturation. When he said he was interested in finding out more about what the courses were and how much each program would cost, I steered him to the university and college calendars for the institutions in our province—to start with. He also wanted to leave with an idea of where he might do a co-op next year and he said he was going to ask the co-op teacher about placements in the fields we discussed.

CAROLINE: UNIVERSITY STUDENT

CAROLINE: As much as I love History, I'm beginning to wonder whether I will ever get a job when I'm finished school. What can I do with a Bachelor's degree in History?

I started with Part 2 of Job Futures and looked up History—U420.

COUNSELLOR: Two years after graduating, almost 11 percent of History graduates are working as auditors, accountants and investment professionals; 15 percent are paralegal or social service workers; and the rest are split between writing, translating and public relations occupations, policy and program officers and researchers, and technical occupations in libraries and museums.

CAROLINE: Wow, they work in very different fields than History!

COUNSELLOR: Yes, it seems that the graduates have gone on to develop different skills to get work. Look in this section, **Graduates Speak Out**. Only 57 percent would make the same

Caroline is at the end of second-year university. She is trying to decide whether to stay in her current program or switch to a different one, and what impacts this may have on her relative work experiences.

educational choice again compared to the average of 71 percent for all fields of study at the same level of education. So, a great deal of grads, in hindsight, would choose to study something else. But look at the next line. Eighty-five percent are satisfied with their work compared to 90 percent for all fields of study. After they get those extra skills and start working, a greater percentage enjoy what they do.

CAROLINE: How much do they make in those fields?

Still in Job Futures, Part 2, I pointed out the Average Earnings of Graduates to her.

COUNSELLOR: Well the chart shows results from three national graduate surveys - 1990 graduates two years out of school, and then again at five years out of school; and 1995 graduates two years after graduation. For each survey the average top 20 percent of earnings, the average earnings and the average bottom 20 percent of earnings are given. Finally, the overall average of earnings at this level of study is given for each survey for comparison.

CAROLINE: Why so many different figures? I think one average would do me fine.

COUNSELLOR: The three amounts - highest 20 percent, average and lowest 20 percent - will give you a really good idea of the potential range of earnings to expect. Sometimes that overall

average you talk about can turn into an expectation and then a disappointment if the earnings aren't met.

The three different time periods allows you to compare and see how the earnings have changed over the past ten years. You can get more details about the earnings chart in **Understanding the Field of Study Profiles in Part 2**.

CAROLINE: Well, I was wondering whether switching my major to English would make a difference in my employment experiences. What information does **Job Futures** have on that?

COUNSELLOR: We can do a comparison between History and English programs by looking each one up in **Part 2** of the book, or by using the **Search and Compare** function on the **Job Futures** Web site. If we look up the undergraduate English program -U402 - you can see that the earnings of 1995 graduates in 1997 were \$48,800 for the top 20 percent, \$27,600 for the average, and \$11,200 for the lowest 20 percent. If we compare this with the earnings of History graduates, you can see that the averages for 1995 graduates of History (U420) are somewhat higher. However, this wasn't necessarily the case for the 1990 graduates, so we can see that conditions may change over time.

If we compare some other factors, you can see that 53 percent of English graduates found full-time jobs compared to 69 percent for History grads, and 74 percent for graduates from all fields of study

at the university undergraduate level. It might also be interesting to compare the top five occupations where graduates found work two years after graduating. There are two occupations that are common to both - Paralegal, Social Services Workers and Occupations in Education; and Writing, Translating and Public Relations (PR) occupations - but the others are different. So there are various options.

CAROLINE: Well, I guess I'd like to know a little bit more about what writing, translating and PR occupations are because they sound interesting right off the top.

COUNSELLOR: That's easy enough. The titles and code numbers for the occupations related to this field of study are here in the **Occupational Cross-Index**. Here it is - 512. So we can go to **Part I** and look up that occupational description. There's a list here under **At Work** that briefly describes job duties for about seven occupations in this group. Any of these look interesting to you?

CAROLINE: Yes—Translators since I'm fluent in both English and French. And look here where it says their average earnings are \$39,500, whereas the average for all occupations is \$37,400. Is there any specific training you need for that, other than my degree?

COUNSELLOR: First I want to point out to you that this earnings information is the average for the whole occupational group, not just Translators. So their average earnings could be above or below

the overall average for the group. You would probably need to check with an industry or occupational organization for more specific data.

About the training—it says in the **Education, Training and Experience** section that you usually require a diploma or degree for this group of occupations. And then, specifically for Translator, you may require certificates or membership in a professional organization.

CAROLINE: Would it make a difference if I planned to continue on for a master's degree?

COUNSELLOR: We can look those profiles up as well, or add them to the comparison on the Web site – you can compare complete profiles or just the topics that you are most interested in, for up to five fields of study at once.

Now, the master's level programs are M402 and M420. It would mean an extra 1 or 2 years at school. While we compare the outcomes for recent graduates, let's try to see if there appears to be a net benefit to the extra time and costs. What I mean by that is, does adding a master's degree have a noticeable impact on things like average earnings, the chances of finding work, or unemployment rates?

There's a chapter in **World of Work: Overview and Trends**, another part of **Job Futures**, that I read the other day that talks about net

benefits of post-secondary education, that is, the net effect you get if you weigh the costs and benefits related to various choices. It's something to keep in mind when making career planning decisions.

CAROLINE: So, if I spend one or two more years at school, will that pay off over the long term?

COUNSELLOR: Exactly! Now, we can see that the earnings for English graduates at the master's level are higher than for the undergraduate program, for both 1990 and 1995 graduating classes. However, for the 1995 graduates from History, the undergraduate program shows higher averages than the master's program. So maybe extra schooling doesn't pay off in this case. However, we can see that this was not the case for the 1990 grads, where the master's level graduates did do somewhat better. Again, things can change over time.

Let's also look in the **Labour Market Facts** section, under **Profile of Recent Graduates**, and compare the unemployment rates. These are 25% (U402) and 23% (M402) for English graduates, and 6% (U420) and 13% (M420) for History grads. That's quite a difference between the labour market experiences of history graduates two years after graduation relative to the English grads! However, for

both courses at the master's level, looking at **Graduates Speak Out**, 80% of graduates would make the same choice again. This is much higher than what we saw earlier for the undergraduate programs.

By the way, you can see that the **Work Prospects** are "Fair", or average, for all four of these programs, so there's no difference there.

CAROLINE: Well, there's a lot for me to think about. And I think I'll compare some of the other information in the profiles as well.

COUNSELLOR: **Job Futures** is a good starting point. You now have an idea of what you want to investigate and you can dig into some other resources for more details.

I also mentioned to Caroline that for more specific work duties, she could check out the National Occupational Classification (NOC). You can link directly to the NOC listings from the occupational profiles in Part 1.

*For links to resources with province and territory-specific information on earnings and outlooks, I suggested she look in **For More Information in Part 1 or 2** which is under **Other Resources** on the Web site.*

CAROLINE: Thanks a lot! This has been very helpful.

S A R A H : J O B S E E K E R

SARAH: I thought I'd get back into work in a little different area than I was before. What I'm considering is travel counsellor. What kind of training would I need?

COUNSELLOR: We'll be able to find a quick answer to that in **Part 1 of Job Futures**. I can look for it in the **Alphabetical Listing**, or use the **Search and Compare** function on the Web site, and then go to the profile. Here it is - NOC 6431. In the **Education, Training and Experience** section of the Travel Counsellor profile, it says that you must have a high school diploma, and most of the recent entrants into the field have a trade/vocational or community college/cégep diploma or certificate. There are often clues as to what skills are new or changing in the section **National Outlook to 2004**. In this case, it says that you would be retrieving information from the Internet and other electronic data access systems. And you would have to use a computer for reservations and bookings.

Sarah has not been employed outside the home for four years. Her previous work outside the home was as a manager in a retail store. However, she had always wanted to work in a travel agency. She arranged to meet with me to find out how to go about preparing for work.

SARAH: Does it say how long it would take to train to be a Travel Counsellor?

COUNSELLOR: In the **Field of Study Cross-Index**, it says that the college course connected to this work is Sports and Recreation—C893. We can go to that field of study in **Part 2** and see that this program is two years long.

SARAH: Well, I wonder if I would get hired after taking the course?

COUNSELLOR: According to the **Profile of Recent Graduates** section in **Part 2**, 75 percent of graduates entering the labour force found full-time jobs as compared to 76 percent of all graduates at this level of education. It also shows you, in **National Outlook for Graduates to 2004**, that the labour market situation in terms of these graduates expecting to find work is currently “Fair” and is expected to remain “Fair” to 2004. That means that there is an average chance of finding work compared to all occupations, and the earnings are average too.

But this profile contains information for recent graduates who ended up in quite a range of occupations. For example, the largest share (33.3%) of these graduates found work in travel and accommodation occupations, which includes Travel Counsellors, but others found work as policy and program officers, retail salespersons, managers in food service and accommodation, and

athletes, coaches and referees. So the actual outlook for Travel Counsellor could be above or below the overall average.

We can go back to the occupational description in **Part 1**, where there was a separate listing for Travel Counsellors to look at information specific to this group. Here, in **National Outlooks to 2004**, it says the prospects will be “Fair” for the next five years. So it’s the same—you would have an average chance of finding work.

SARAH: And how much money would I make?

COUNSELLOR: You can look at the overall average earnings in the **Earnings** graph, and see it’s \$27,000 for all workers in this occupation versus \$37,400 for workers in all occupations. Or you can be more specific and look at the average full-time earnings for three different age groups. The benefit of this is that you can get a good idea of the growth in earnings over time and you can also get a more realistic idea of what an entry-level position would make.

For example, the minimum earnings of the top 20 percent of entry-level workers was \$30,700 - so some earned more than this; the average was \$24,100; and the maximum of the bottom 20 percent of entry-level earnings was \$18,000 - so some earned less than this.

There is more information in **In These Occupations**. It says here that the earnings for this occupation are among the lowest for

occupations at this level of education and training, and for occupations in sales and service.

SARAH: You know, my last salary was in that range. I think if I really love the work we could get by. But I have also been thinking about Real Estate. My customer service background and people skills would probably help me in that field too. What kind of training or experience would I need to sell houses?

COUNSELLOR: I'll look for that one in the Appendix under **Detailed Index of Occupational Titles of Part 1** because I don't know the code.

*This index can also be found under **Listings of Occupational Profiles in Part 1** on the **Job Futures Web site**. There is a search function on the Web site that I could have used too.*

Real Estate Sales is 623. We can see in the **Education, Training and Experience** section that most recent entrants to the field have a community college/cégep diploma or an undergraduate university degree. And real estate practitioners need a licence.

SARAH: How long will it take?

COUNSELLOR: We can check the **Field of Study (FOS) Cross-Index** which will tell us where to look in **Part 2**. There are several FOS codes listed. You can tell just by looking at the codes that there

are related courses at the university level, the college level, and the trade level. See, the U means university and the C means community college or cégep. Most community college programs are two years long. University is usually three or four years.

SARAH: I've never heard of a university Real Estate program.

COUNSELLOR: These are broad fields of study and sometimes the program you are looking for is buried among several. The **Cross-Index** refers to the most likely programs that lead to further specialized training in your area of interest. For example, if we choose the Planning and Resource Management program (U850) from the **Cross-Index**, and look it up in **Part 2**, we can see from the **Occupations of Graduates** graph that 21.4 percent of graduates found work in the Insurance and Real Estate Sales occupational group.

We could also look and see if there is an association connected to Real Estate in the **Listings of Organizations by Occupation in Part 1**. We'll find the appropriate organization by using the occupational code - 623. Here it is—the Canadian Real Estate Association. You can call them and see if they have the information you want. You could also call a university or community college/cégep in your area.

SARAH: Just for comparison sake with Travel Counsellors, how much could I expect to make as a Real Estate Agent?

COUNSELLOR: The specific code for Real Estate Agent is 6232. In the **Earnings** graph in the profile in **Part 1**, I guess you would look at the entry-level group again since you would be new to the work. The average earnings for that entry-level group are \$38,400. If you look at the overall averages, you can see that the average for “This Occupation” is higher at \$42,900 than the overall average of \$37,400 for “All Occupations”. Remember that the Travel Counsellor was less than average.

SARAH: I think I need to do a bit more research. I will talk to the Real Estate Association and drop into a local travel agency and talk to them too.

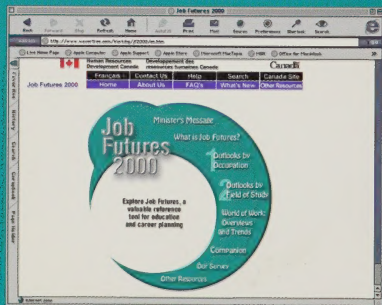
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